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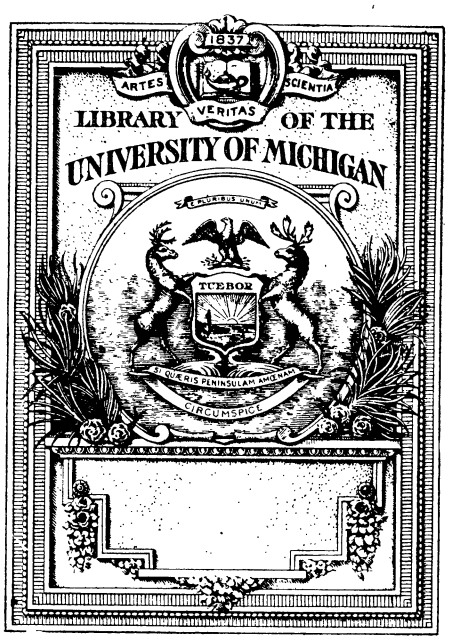

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OF

AMERICAN ARCHAEOLOGY AND ETHNOLOGY

HARVARD UNIVERSITY

MEMOIRS

VOLUME V

CAMBRIDGE, MASS.
PUBLISHED BY THE MUSEUM
1911–1913

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VOL. V. — NOS. 1 AND 2

EXPLORATIONS IN THE DEPARTMENT OF PETEN, GUATEMALA

TIKAL

BY

TEOBERT MALER

PRELIMINARY STUDY OF THE RUINS OF TIKAL, GUATEMALA

BY

ALFRED M. TOZZER

CAMBRIDGE

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PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY, HARVARD UNIVERSITY

VOL. V—No. 1

EXPLORATIONS

IN

THE DEPARTMENT OF PETEN GUATEMALA

TIKAL

REPORT OF EXPLORATIONS FOR THE MUSEUM

BY

TEOBERT MALER

CAMBRIDGE

PUBLISHED BY THE MUSEUM

1911

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NOTE.

THIS report by Mr. Maler completes the series on the explorations which he has carried on for several years under an agreement made with the Peabody Museum. The report is printed without certain plans referred to by Mr. Maler which have not been received from him. This omission is, however, supplied by the Museum Expedition of 1910 (see foot-notes on page 10, *et seq.*). In order to use the plans when reading Mr. Maler's report, the two reports are issued under one cover. To further facilitate reference, a table has been prepared (see page vii of No. 2), giving the names used by Mr. Maler and the corresponding terms used in the report of 1910. A number of measurements were left blank in Mr. Maler's manuscript, and these have been supplied by the Expedition of 1910, all such being given in italic figures.

Mr. Maler's reports were written in German, and it is therefore especially unfortunate that he has not returned the proofs of this and also of the two preceding reports published in Volume IV, Number 3 of these Memoirs. However, the translations were carefully made by two German scholars. — EDITOR.

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EXPLORATIONS

IN THE DEPARTMENT OF PETEN, GUATEMALA.

XXIV.

TIKAL.

"Place where spirit voices are heard."

END OF MAY AND BEGINNING OF JUNE, 1895. BEGINNING OF AUGUST TO MIDDLE OF NOVEMBER, 1904.

THE word *cal* (pronounced with the usual *k*-sound) signifies in the Maya tongue, the throat, the œsophagus. When the word becomes *kal*, *kalil* (pronounced with strongly emphasized *k*-sound) it means voices, calls, cries.

The Mayas believe that at midnight (especially during the great festivals), their ancestors return to earth and, adorned as in the days of their glory, wander about in the forsaken temples and palaces, where their spirit-voices are heard in the air. Therefore all important ruins in this land are regarded as enchanted, *encantadas*, and timid people do not like to sleep alone in their desolate chambers.

The Indians of San José and San Andres distinctly and clearly say Tikal, and not Ti-cal, therefore I have decided on the form Tikal.

When I undertook the first expedition to Tikal in the middle of 1895, it was not with the expectation of working up this enormous city of ruins during a first visit, for such an undertaking could not be accomplished without considerable preparation; I only intended to reconnoitre the ground as thoroughly as possible, to make drawings and plans of the most important subjects, and to take photographs which did not require too much preliminary work.

May 21, 1895. I left the island city of Itza and crossed the great lake in a northerly direction in a swaying cayuco. I landed at the little Maya village of San José, where I presented to the alcalde, José María Chata, the order received from the prefect, Isaias Armas, according to which the alcalde was to render me all possible assistance in my difficult undertaking, at the customary rates of payment, and to appoint the requisite number of men to accompany me.

After the business had been discussed in all its details, the alcalde appointed five men to carry my very light baggage and the most indispensable provisions, and to make themselves generally useful at the ruins.

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While the men were making their preparations for the journey, I was able to utilize my enforced leisure by visiting the neighboring ruined city of Motul.

On the 25th of May we embarked in a large cayuco obtained from the alcalde and rowed to the village of El Remate at the eastern end of the lake. As there was no wind our voyage was quickly and safely made along the beautiful wooded north shore for the most part. Owing to the calm weather we were able to avoid entering the great bays formed by the promontories, and could cross from cape to cape, thus saving much time and labor. In a storm it is absolutely necessary to hug the shore.

Every now and then at the approach of our dugout, great flocks of cormorants, called *malaches*, rose up. We saw no ducks, but occasionally, high in air, a flight of beautiful pelicans, *alcatraz*. These ugly *malaches*, or *cuervos de agua*, live on fish which they catch by diving and remaining several minutes under water. They have a very bad reputation, for it is said that they merely peck out the eyes of fish which are too large for them to eat. The fish thus rendered helpless soon die miserably. Several times during our passage we did, in fact, see dead fish floating on the water with their eyes pecked out, in seeming corroboration of the statements made by the Indians.

The repulsive *malaches* perpetrate on the water the very same iniquity which the smallest owl of Yucatan perpetrates on land. This little bird by way of a tidbit picks out the eyes of the beautiful ocellated turkeys (*Meleagris ocellata*) while they are innocently roosting at night on the branches of lofty trees. Indians, who accompanied me on my wanderings in the wildernesses of Yucatan, assured me that when out hunting they have occasionally found *cuts* straying helplessly about in the forest with their eyes pecked out, and dying of starvation.

On this expedition I already noticed that the waters of Lake Peten-Itza were in process of rising, for at flat portions of the north shore I frequently observed dead trees standing far out in the water.

Quite late at night we arrived at the cabins of El Remate, at that time inhabited by half-breed negroes, and here we spent the night. The distance between San José and El Remate is estimated at fully ten leagues.

From the cabins of El Remate the path runs N. N. E. through the wilderness to Tikal, which is distant about thirteen leagues (55 km.). Long stretches of the path were so overgrown by vegetation that my men had constantly to use their *machetes* to make progress possible.

At the end of the first day's march, after having crossed a mountain by a difficult pass, we arrived at the Ixtinta aguada, where we spent the night. We estimated the distance travelled that day at about four leagues. At noon of the second day, having covered but two leagues, we came to another aguada called Ixpita, where we rested for about an hour.

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This aguada is about half-way between El Remate and Tikal; it is surrounded by small heaps of débris and I also found a *chultun* or rain-well near by. However we continued on our way turning off far to the right, along the tops of a range of hills, at the end of which we spent the night, this time managing to get along with the water we had brought in the *calabazos*[1] filled at the Ixpita aguada.

Descending the range of hills we came to small heaps of ruins, and further on to much larger ones. Late in the afternoon of May 28, 1895, after a three days' march, we came out at Tikal, near the great Palace of the Grooved Walls, in the vicinity of which the Indians pitched their camp. Remaining with the baggage myself, I at once sent the men to the aguada with every available vessel, in order to lose no time in settling the question of water supply.

As we were already approaching the end of the dry season, the surface of the aguada proved to be quite dry, but a hole (*un pozo*) already dug by former travellers, was speedily deepened, until by good fortune the men struck water, which was still contained in the black soil; otherwise, parched with thirst we would have been obliged to retrace our steps the next day to the Ixpita aguada. On the following day I began the inspection of the ruins, intending to have the trees and shrubs cut away from those structures which I wished to photograph, when a great and unexpected difficulty arose. The men from San José whom I had brought with me were capable and willing enough on the water as oarsmen, and on land as carriers of burdens, but they were entirely unwilling to fell trees, and especially to excavate buried sculptures. A certain vicious fellow named Pedro Ek proved especially mutinous. He apparently had a bad influence upon the other men, whom he incited to refuse to work in order to hasten their return to San José.

Not in the least inclined to have my work interfered with and my time wasted by this rapscallion, I withdrew from their camp and had my baggage, my provisions and a supply of water carried to the Two-storied Palace which stands opposite Great Temple V toward the north. The central north chamber of the first story with its niches and great stone benches affords the traveller many conveniences.

By changing my quarters to this palace, from which the principal square with its various structures was easily accessible, I saved a great amount of time, while the dissatisfied Indians remained in their camp on the other side of the more remotely situated Palace of the Grooved Walls. Even though they joined me late during the forenoons to help a little or to do nothing at all, and left me early in the afternoon under the pretext of preparing a meal, I still found time between while for a great deal of work on plans and drawings.

[1] The fruit is *calabaza*, while the vessel made from it is called *calabazo*.

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Therefore, during the eight days of my stay at Tikal, from May 25 to June 5, 1895, I drew the ground-plans of the five chief temples, also that of my Two-storied Palace and the Palace of Five Stories. I made careful tracings of all the most important of the best preserved incised drawings found on the smoothly stuccoed walls of the chambers in the different structures, for I had fortunately brought an ample supply of tracing paper with me (Figs. 1–10).

Photographs were taken of a few of the best preserved edifices. The sculptured stones were not photographed at this time, since the preparation would have taken too much time.

Taking it all in all, a fair share of work was thus accomplished, and my collection of incised mural drawings is altogether unequalled. To tell the truth, I somewhat overworked and felt a good deal exhausted each night.

Sometimes in my lonely chamber during the night I found myself so surrounded by roaring panthers with whom other creatures, perhaps more harmless, mingled their cries, that I was forced to maintain a great fire at the entrance of my chamber, even occasionally to barricade it with timber. Of course I always slept with a carefully loaded rifle by my side, but otherwise in perfect tranquillity of mind. When I am sleeping in solitude in a ruin or under a tree in the primeval forest, or in a little cave, I am not at all disturbed by the serenades tendered me at the midnight hour by the *Felis onca*, the *Felis pardalis*, the *Felis concolor*, or any of their kin. It always seems to me to be part of the situation, so I listen with cheerful attention. The darkness of the night makes no difference in my feelings, because I am convinced that the same amount of good and evil always exists whether our planet bears us in sunlight or shadow.

As a rule, however, the half-breeds of the country, who are so fond of playing the *valiante* by day, become completely and miserably demoralized with the approach of night. Nothing would induce these heroes to sleep alone in the forest or in a ruin. The genuine, full-blooded Indian, however, preserves his composure by night as well as by day, but even he never likes to be alone.

Another three days' march took us back to El Remate (June 8). It had rained a good deal during our journey, an unmistakable sign that the rainy season had set in.

On our arrival at El Remate I felt very much exhausted, nevertheless I immediately took a bath in the lake, though I trembled with cold in that stormy weather. Afterwards I made a light meal of the food I was able to buy in some of the cabins.

The Indians, impatient to reach their village, were quite willing to row homeward during the night instead of sleeping, especially as the storm had abated. Silently and majestically the full moon rose, but later remained mostly obscured by leaden clouds, while we rowed toward the splendid

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evening star. The night was pleasant, cool and calm. The Indians, secretly desiring to receive their pay in spite of all that had happened, began to be more friendly as we approached their village.

Early on Sunday morning (June 9) we landed safely in front of the Casa Real of San José, where the men were paid off and dismissed.

The rate of wages, by the way, was 50 centavos per day in 1895, while on my return in 1904 it had risen to 75 centavos. I observed that in the Department of Peten, as everywhere else, money sinks in value as the price of commodities and wages rise.

Feeling somewhat rested I took leave of the alcalde, J. M. Chata, and of Don Pedro Berges, in order to cross the lake to Itza-Flores before the south wind, so frequently dangerous here, should begin to blow.

June 10, 1904. Coming from Tenosique by way of Paso Real and Sácluk I left my baggage temporarily at Playa de San Benito. After finding a suitable little house in the island city on the opposite side of the lake, I proceeded to move my things thither and began preparations for a second expedition to Tikal, this time under the auspices of the Peabody Museum of Harvard University.

Archaeologists had expressed the wish that the great city of Tikal, hitherto scarcely known, should be as thoroughly explored as Piedras Negras and Yāxchilan. Of course, I was left at liberty to turn my attention incidentally to any other ruins, which I indeed did, but the main object of the expedition, the watchword as it were, was to be Tikal.

All the details of the business were thoroughly discussed with the *gefe politico* of Peten-Itza-Flores, Licenciado Clodovego Berges, who then summoned the alcaldes of San Andres and San José to appear in person at the capital of the district. Here each alcalde received instructions to appoint four capable men from his village, and in case these men wished to return home at the end of a fortnight, to send me four other men in their stead with a fresh supply of provisions. The wages agreed upon for these men were 75 centavos per day, and they were instructed to take with them only sufficient provisions (*bastimento*) for the journey as they would have daily rations of food served them at Tikal. The supply of game would of course be incidental, and dependent upon circumstances.

At 1 peso a day I hired of Don Sóstenes Morales for the whole time of the expedition, a cayuco large enough to hold all the men and their provisions. This cayuco was to remain at El Remate for the use of the returning or newly arriving men.

Thus every contingency was provided for, and we were never to be cut off from communication with the villages by water, which was of the greatest importance for the success of the undertaking. The Indians were made contented and easy in their minds, knowing that the cayuco was always at their service at El Remate whenever they wished to return home.

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A modest compensation was privately tendered the alcaldes of the villages, for they had been put to much trouble in appointing the right men and having *totopostli* (thin, crisply toasted tortillas) made for us, procuring maize, and other provisions and attending to much other business.

On July 31 I embarked in the great cayuco with the three men I had brought from Tenosique and the most indispensable baggage. We rowed across the lake to San Andres where the alcalde, Don Lázaro Cano, received me as in duty bound. The men of San Andres who were to go with us gradually made their appearance, and after the provisions which had been prepared were delivered, we went on to San José to take in the men appointed from that place.

At San José the schoolmaster, Don Rómulo Aldana, who was also the alcalde's secretary, was particularly obliging and helpful to us.

All being in readiness we departed the following day for El Remate. This time, however, owing to stormy weather and a high sea we could not venture to cut across the bays from cape to cape, but carefully worked our way along the north shore. We reached El Remate on the second day, where we spent the night in an empty chiclero hut, in order to be in good trim for our march to Tikal next day.

As the men carried heavy burdens our progress was slow, and on the farther side of the Ixpita aguada the path was so densely overgrown that the *carga* had mostly to be deposited on the ground, while the Indians hastened forward to clear the way with their machetes.

After a laborious advance of fully six days, we at last came out at Tikal, and, as on the previous occasion, at the palace of the vertically grooved walls (August 8).

Here, without further loss of time, the Indians erected two *champas*, or shelter-huts: one for the men of San Andres, and the other for those of San José. As for myself I spent the first night in a small, partially demolished chamber in the east corner of the palace.

As we were in the rainy season we had no anxiety regarding our supply of water at the aguada, which was only 1 km. distant from the camp.

Subsequently I moved with my Tenosiqueros to the two-storied palace (opposite Great Temple V) where I again occupied my former apartment, assigning two other rooms to the mozos. After cutting down the trees in the north courtyard of the palace, light and air entered the chambers and imparted to the whole an air of cheerfulness. The cast-iron corn-mill we had brought along was attached to one of the felled trees, so that the soaked maize (*kum*) could be ground daily and the men need never be without fresh corn-bread (*tortillas*) nor corn-mush (*potsol*), which arrangement was much appreciated by the Indians, but nothing improved the evil disposition of the Tenosique rascals.

Since the men from San Andres and San José could not be induced to

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remain more than a few days, the clearing away of vegetation before the five great temple-pyramids was attacked without delay. Owing to the advanced state of demolition of the other buildings, I could only photograph an interior here and there, or the remains of a façade, all of which required but little preliminary work. But it did require a great deal of work only approximately to free from obstructions the five exceedingly high, great temples, with their pyramidal substructures, and crowns of tower-like edifices.

While the first detachment, *cuadrilla*, of workmen, was returning to their villages and I was expecting the second, I began with my Tenosiqueros to prepare the stelae on the principal square for being photographed. Of the stelae above ground, only one (No. 10) was still in an upright position in 1904, while the others, which were still standing when I visited Tikal in 1895 (Nos. 8, 9, 13), had been thrown down by meddlesome chicleros who expected to find treasures hidden beneath. I sent a report of this vandalism to the government officials of Peten, emphasizing the fact that the chicleros had concessions for gathering chicle but not for overturning sculptured stones, or for the perpetration of other mischief.

The second *cuadrilla* having arrived laden with provisions, the preparation of the five great temples was completed, but not without overcoming very serious difficulties (Plates 1–6). Most of the men were afraid to climb to the flat roofs (*azoteas*) of the temples to remove the shrubs, which grew upon them and concealed the roof-combs rising several feet back from their edge, making it quite impossible to take an artistic photograph. Ladders were therefore constructed of long pieces of light guarumo wood in order to reach the roof platforms. Finally one of the Tenosiqueros declared himself willing, for extra pay, to ascend the firmly anchored ladders, and to cut away, as far as possible, the unsightly wisps of vegetation. It was not a hard piece of work, but, I must admit that it was very dangerous and could only be done by a person not subject to dizziness.

In the excavation of stelae buried at an unusual depth, like Nos. 1, 2, 4, and 12, the Indians proved themselves full of clever expedients, and, generally speaking, it may be said that each man of them was worth five Tenosiqueros. It was only owing to the fact that the Indians are unwilling to engage themselves for any length of time that I was forced to bring the vagabonds with me from Tenosique.

All the important preparatory work having been accomplished, the second *cuadrilla* of Indians was dismissed.

Owing to the really astonishing abundance of game in the forests surrounding the ruined city, we were never without a supply of the best imaginable kinds of meat for our meals, and the Indians returning home were able to carry back to their families as trophies from the enchanted city of Tikal, birds and portions of wild swine, partially cooked and slightly smoked over a smouldering fire.

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We shot chiefly the crested *kambul* (*Crax rubra*) of which species the male is black as a raven with a white breast, while the female, which equals the male in size, is of a splendid red-brown; the gorgeous *cuts* (*Meleagris ocellata*) and the delicious black *coxolitli* (*Penelope*). In the neighborhood of the aguada the men occasionally shot a *citam* (*kitam, i. e., c = k*) or collared peccary (*Dycoteles torquatus*) and by way of variety a juicy roast of monkey was not despised (sometimes *Stentor niger* and sometimes a species of *Ateles*), the men caring more for quantity than quality of the roast.

In photographing the sculptured stones I waited in the case of each one for the most favorable light. A strictly front view was taken of each of the five great temples, and also, for the better comprehension of them, a diagonal view. In addition to the two photographs of ruined façades taken in 1895, I took four more on this occasion. I also took four very successful interior views with long exposure, assisted by magnesium light, as the daylight was insufficient.

Careful ground-plans were drawn of the most important palaces of which measurements had not been taken in 1895. It was absolutely impossible to draw regular ground-plans of all the structures not wholly demolished. But I drew a plan of the city on a large scale and as complete as possible, on which the character of each building was exactly reproduced (only the first story of those of several stories) and its position with reference to the points of the compass approximately indicated. While making the plan we came upon portions of the city which must have remained entirely unknown to previous visitors. Indeed nothing could escape our notice during this work, for every corner, every elevation, and every depression was thoroughly searched and the structural remains noted. We found many stelae and circular altars, most of them quite plain, and entered them upon the plan together with the structures to which they belonged. Thus this careful search led to the discovery of Stela 17, which alas! is badly damaged, in a spot where no one would have surmised its existence. On the last days of our stay, when we were determining the position of the lesser temples between the two-storied palace of the stepped vaulting and Great Temple IV, we discovered the magnificent Stela 16. This led to the excavation of the largest circular altar of Tikal, which the priests had buried under a metre of earth when they abandoned the city. It is a mythological treasure which will afford Americanists particular satisfaction.

All the following descriptions will be based upon the very comprehensive plan of the whole city. It is unavoidably imperfect in many respects but I can recommend it as extremely useful for the better comprehension of the relative positions of the various structures and stelae.[1]

[1] This plan has not been received from Mr. Maler. We are therefore fortunate in having a plan of the city, made by Dr. A. M. Tozzer and Mr. R. E. Merwin in 1910 during the Peabody Museum expedition of that year, and issued with the report of that expedition in No. 2 of this volume (Pl. 29). This plan can be referred to by the reader of Mr. Maler's report. For this reason and to permit the comparative reading of the two reports, they are issued under one cover. — EDITOR.

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As this Maya metropolis covered a square area of more than one Mexican league, that is, from four to five kilometres from south to north and from east to west, the difficult question arises where to begin to describe it, and where to finish.

In describing Yāxhá and Naranjo the question was easily answered, but Tikal presents a very different problem. If, for instance, the description were to begin with the principal square, great difficulties would arise in whatever direction we advanced. It will perhaps be best to begin with the Palace of the Grooved Walls and taking in what can be seen to the right and left of it, advance from that point to the principal square.

Beginning at the Palace of the Grooved Walls, *i. e.*, at the southeast, and advancing toward the principal square.

The Palace of the Façades with Vertical Grooves[1] (Plan, Fig. 1).

A rectangular court is enclosed on all four sides by structures which we will call East, West, North and South Structures.

The East Structure. The entire length of the eastern façade of this enormous structure is 58 m., 87 cm.; of this length 875 cm. at each end belongs to the 208 cm. projection. This structure has five chambers in a row on the east side of its main body, each with its own entrance. The two chambers (a front chamber with one in the rear) in the projecting portion at the end of the south structure may be considered as belonging to the latter, since the entrance is on the south side. The two transversely placed little chambers in the north projection are entered from the fifth lateral chamber. Fronting on the court, on the west side, this east structure has five more chambers in a row, the middle one having an apartment in the rear. Two of these chambers contain constructions like large benches. The ceiling vaults are strictly wedge-shaped, truncated at the apex. A sixth chamber also in this row may be considered as belonging to the north structure, since it is entered from the corner chamber of that structure leading into the court. A passage 80 cm. wide runs from the north through the thickness of the masonry between the sixth chamber and the little transverse chamber mentioned above, and, turning with a curve, leads into the court.

The vertical grooves of the east side result from the shape of the base of the east façade, but those on the west side arise from the grouping of large symbolical figures of stone and stucco. The friezes of the two façades fell off long ago.

Doubtless the east structure once had a receding second story, which was supported by the massive partition wall of the first story.

[1] A reference list showing the names of the structures as used by Mr. Maler in this report and the corresponding numbers or names used on the map accompanying the report of the Expedition of 1910 is given in No. 2, p. vii. — EDITOR.

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The North Structure. This edifice had a row of chambers, three of which are still intact, opening on the court, on the south. From the middle one of these three chambers a broad passageway, spanned above by fifteen tsapotl logs, leads into a north chamber now wholly demolished. Of the row of chambers on the north side only a few indications still remain.

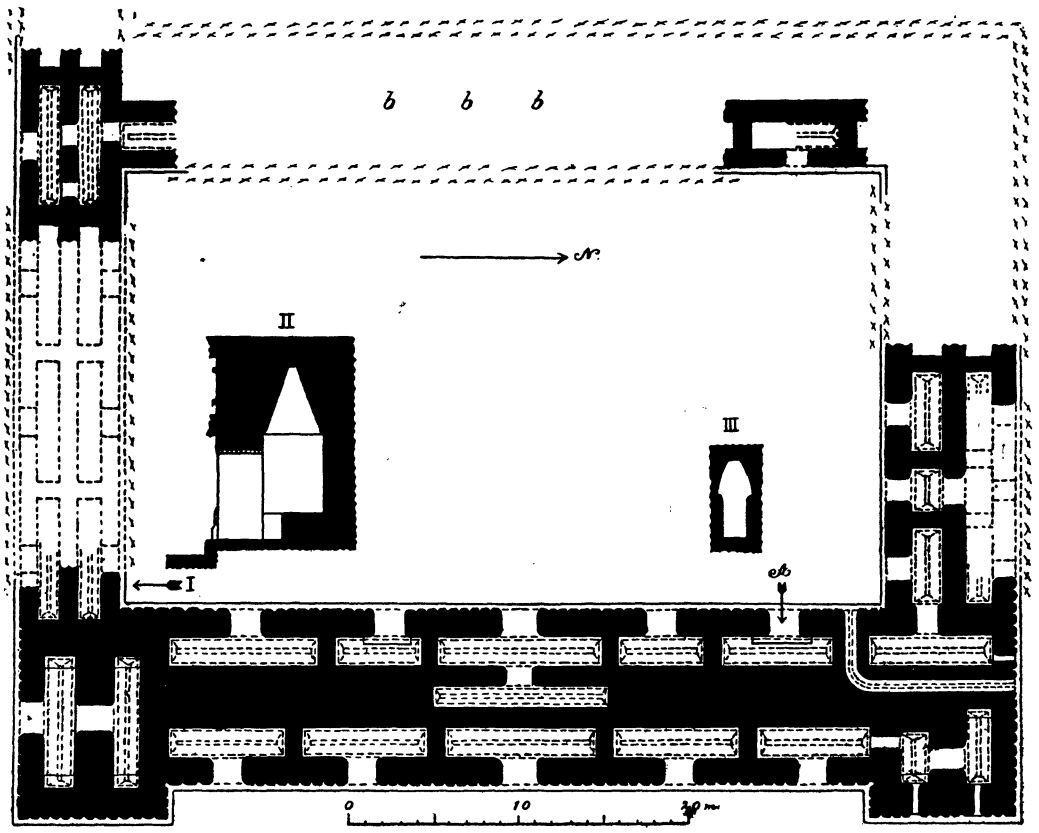

FIG. 1. — TIKAL: PLAN AND SECTIONS OF PALACE OF THE FAÇADES WITH VERTICAL GROOVES. I. Head in frieze. II. Cross Section of inner room (*A*). III. Cross Section of northeastern passage. *b b b*. High mounds of débris formed by fallen edifice of two stories.

The vertical grooves on the north side (toward the northeast corner) are formed by groupings of large symbolical figures, which are very interesting to behold, but which are too much impaired to be successfully photographed.

To the north structure belonged a receding superstructure now wholly ruined, with entrances on the north, while the side toward the court had only small, narrow windows — mere air holes.

The South Structure. This structure consisted of a double row of chambers, most of which are now demolished. Probably there were six chambers in each row, but it should be noted that the arrangement of the two chambers in the southeast corner differs from that of the others, as is shown on the ground-plan (Fig. 1).

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In the angle of the court formed by the joining of the north side of the south structure with the west side of the east structure, a bit of frieze still remains, displaying a fantastically elaborated head. The lower cornice of this frieze is placed 57 cm. lower than the cornice of the frieze on the west side of the east structure. In fact, it must be borne in mind that the horizontal lines of all four structures do not correspond, some portions being placed a little higher, and others somewhat lower. The south structure apparently had no second story.

The West Structure. A stupendous mass of débris is all that remains of what must have been a structure of imposing dimensions, which unquestionably had a second story. Only on the east side, opening on the court, a single chamber of the first story is partially preserved. Nothing is known of the purpose of this vast palace which must have contained more than fifty chambers in the four wings.

Examining the territory to the east and southeast of the Palace of the Grooved Walls, we saw heaps of ruins here and there, doubtless of suburban buildings. The densest collection of stone buildings, however, is toward the west and northwest, in the direction of the principal square.

The Palace of the Rear Chambers and Great Stone Benches (Plan, Fig. 2).

Passing along the south side of the south structure of the Palace of the Grooved Walls, an enormous mound, formed by the ruins of a two-storied edifice, is soon reached. The south side of the structure faces a ravine and the north side looks out upon an extensive plaza. Only the south part of the first story is sufficiently preserved to permit of drawing a ground-plan. The northern longitudinal half is entirely in ruins and the second story, which was supported by it, has entirely fallen down.

The south façade, which faces exactly south by the magnetic needle, has three chambers in a row, each with an entrance on the south. The middle chamber is 851 cm. long and 218 cm. broad. The height from the floor to the truncation of the wedge-shaped vaulting, which is a little out of plumb, is 443 cm.

This middle chamber opens into a chamber in the rear, having a broad stone bench placed lengthwise, and narrow openings on either side leading into small lateral chambers with floors on a higher level. These rear chambers all have truncated, arched vaultings with gracefully curved lines. The front chambers, on the right and on the left of the middle chamber, both open into rear apartments, each with a large stone bench, and each with a door on the side leading into small lateral rooms with raised floors.

The east and the west side of the south half of this palace have each a transversely placed chamber with two small chambers in the rear. One

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of these rear chambers in each group is connected with the adjoining chamber on the south side, as shown on the plan.

The length of this palace measured on the south side is exactly 41 m. The friezes of the façade were, alas! long ago destroyed by the network of roots formed by a too luxuriant vegetation.

The northern longitudinal half of the first story of this palace is a mass of débris from which the remains of a wall or the angle of a chamber protrudes here and there. The architectural arrangement of this north half, with certain deviations, was doubtless the same as that of the south half.

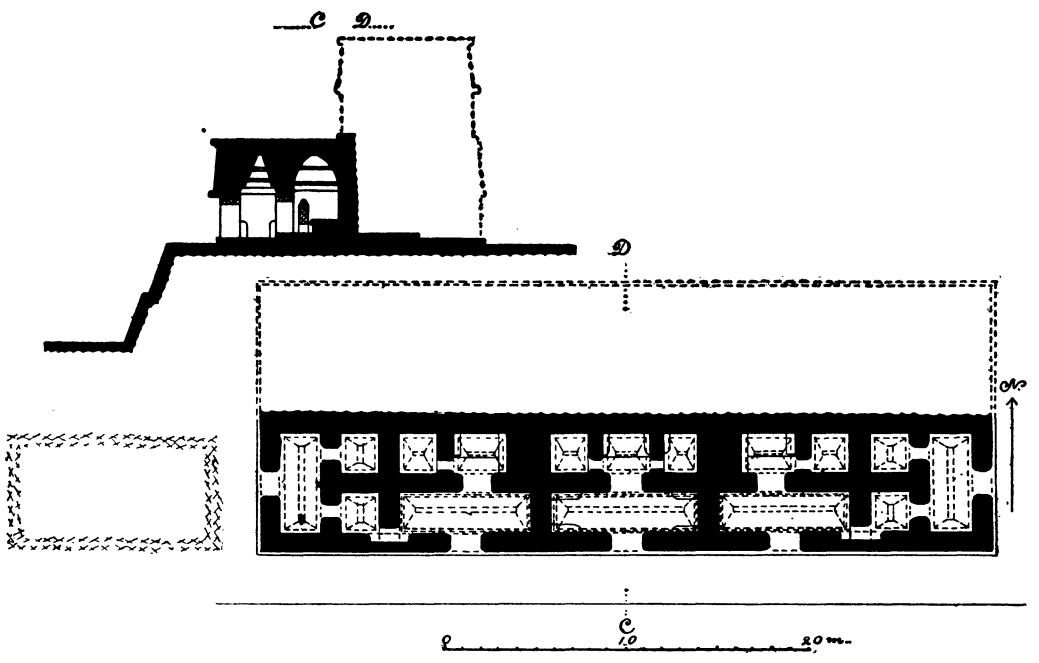

FIG. 2. — TIKAL: PLAN AND SECTION OF THE PALACE WITH REAR CHAMBERS AND GREAT STONE BENCHES.

The second story, resting on the north half of the first, must plainly have had entrances to the front chambers on the south, since the *azoteas* or flat roofs of the vaulted ceilings of the south half of the first story form a spacious platform in front of those chambers. It must be assumed that a wooden stairway led up on one side to the platform, since no vestiges of a stone flight of stairs were discovered.

The number of chambers of the first story of this palace may have been $2 \times 16 = 32$. Supposing the number of rooms in the second story to have been only ten, that would bring the total number of chambers in the palace to 42 before its demolition. This edifice might possibly be regarded as an assembly house of the community (*calpulli*) constructed on a very grand scale.

Let me say, by the way, for the benefit of future travellers, that if they do not wish to take up their quarters in the spacious chambers with stone benches in the east structure (west side) of the Palace of the Grooved Walls,

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they can make themselves very comfortable in the south apartments of the palace just described. The most valuable baggage can be conveniently placed on the benches while at the same time a resting-place can be found on them for one's self, and any one of the little side rooms can easily be converted, by means of a curtain at the narrow entrance, into a dark chamber for photographic purposes. Besides, the distance to the aguada from this palace (as also from the Palace of the Grooved Walls) is not unreasonably great, and the labor of carrying water could thus be minimized.

Ascending in a northwesterly direction from the *planada* on which stands the Palace of the Rear Chambers and Benches, the explorer comes to a stretch of causeway leading to terraces on a higher plane, crowned by a confused mass of edifices varying in size, which it was very difficult to incorporate with clearness in my general plan of the city. The rooms of all these edifices — as far as they are not demolished — display excellent arched ceilings of stone and frequently the entrances are spanned at the top with hard round timbers of chictsapotl, or by heavy beams of the same species of wood.

The Palace of Five Stories (Plan[1]). The most stupendous edifice of the whole group is the Palace of Five Stories, which may be regarded as the sacerdotal palace belonging to Great Temple V opposite, toward which its south façade is turned, the temple itself facing north. A deep ravine lies between the two groups of buildings.

Not counting a first lower terrace, which serves the chambers of the first story as an esplanade, let me say once for all, that the first two stories are set against the hill rising in their rear, and only the last three stories rise free on all sides.

A retaining wall rising from the bottom of the ravine supports a terrace which, in front of the middle portion of the first story, forms a platform with a projection of about 8 m., diminishing in width on the right and on he left, where there are ascents to the next story.

First Story. That portion, which in relation to the whole structure may be regarded as the central part of the first story, had a gallery, now wholly ruined, with an inside length of 20 m. 65 cm., and a width of 140 cm., with three entrances on the south front. There are two inner chambers leading from this gallery, one 1180 cm. in length with two entrances, and the other 535 cm. long with but one entrance. Tsapotl beams, more or less decayed, still span the entrances to the inner chambers, but are without ornamentation.

There were apparently no chambers adjoining the right side (the west) of the central portion, but on the left (the east) the row of chambers was doubtless continued with slightly different arrangement, and they are now in a complete state of demolition.

[1] This plan has not been received from Mr. Maler. See plan, Figs. 22, 23, in Report of 1910 Expedition in No. 2. — EDITOR.

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Second Story. Receding the whole width of the row of chambers in the first story, rises the second story; that is, the façade wall of the second story rests upon the partition wall of the double row of chambers in the first story, so that the azeota of the vaulted ceiling of the front chambers of the first story forms an esplanade for the second story.

The central part (in relation to the entire structure) of this story also has a gallery in front 20 m. 50 cm. long by about 140 cm. broad with three entrances facing south leading into three inner chambers. This central portion has one or two adjoining apartments of the usual size on the right (the west), now so entirely destroyed that their dimensions can no longer be definitely determined. On the left (the east) there was an adjoining double row of chambers now partially ruined. It therefore remains doubtful whether the front chambers corresponding to them did not likewise form long galleries. It can safely be asserted that the rear chambers corresponding with these in front differed in arrangement from those described above, which can be clearly proved by examining the rear chamber with the transversely placed little bench and two entrances.

Third Story. Receding about 10 m. from the façade wall of the second story rises the façade of the third story, the central part having a gallery in front 18 m. 97 cm. long, and 197 cm. broad. There were also three entrances on the now wholly ruined south side (front) leading to this gallery. From the middle of its rear wall, 145 cm. in thickness, a passageway 178 cm. wide, spanned by five beautifully decorated beams of tsapotl wood, leads to a central rear chamber 782 cm. long by 152 cm. broad. At each end of the rear wall of the gallery a narrow opening leads into a small rear chamber, one chamber being 241 cm. long and the other 260 cm. The transverse partition walls of these lateral chambers, which divide them from the central rear chamber, have a thickness of 182 cm., and each has a narrow low opening into the central chamber. As the wide entrance to the central chamber is filled up with débris and the floors of the three rear chambers are covered more than half a metre deep with earth, it is necessary to crawl through the low entrance on one's stomach in order to reach the middle rear chamber and the beautiful tsapotl beams of its main entrance. The archæological enthusiasm of former explorers of Tikal not having been sufficiently great to induce them to crawl on their stomachs into these rear chambers darkened by masses of débris, these richly carved tsapotl beams have hitherto escaped their notice, but not the notice of mischievous, greedy treasure seekers, who recently tore out and carried away the finest of the ornamental beams.

It is very difficult to understand how so much soil could get into those rear chambers, a circumstance which has been observed in several other palaces of Tikal. It is quite comprehensible that the wind, bats and other little creatures can convey a certain quantity of dust and rubbish into these palaces, which would, in the course of centuries, amount to about 10 or 20 cm.

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at most. But a regular body of soil half a metre high spread out perfectly even remains an unsolved riddle, where broken down vaultings, débris, etc., do not come into question.

In order to make a thorough examination of these ornamental beams, I had some of the rubbish cleared out of the main entrance in 1904, thus admitting more light and permitting us to slip in and out with greater ease. There were formerly exactly five of these lintel beams richly carved on the underside. Two of them, of course the best preserved ones, have been carried away and only three of them, riddled by *commehen* larvæ and half decayed, are still in place. But even from these, pieces of the carving have been cut away here and there; in fact, their state of demolition was such that it was useless to think of photographing them.

The carving in relief seems to represent a woman of rank presenting the high priest with the sacrificial gift of a well-fattened turkey. The scene here represented illustrates the custom of making sacrificial gifts to the revered or feared (?) priest in the shape of ducks, turkeys, fish, fruits of every kind, bags of maize or cocoa, perhaps even gold ornaments, variegated feathers and precious stones. It can easily be imagined that representations like these caused the mouths of the Spanish priests to water! They consequently regarded it as a most urgent problem how to act so that this inexhaustible stream of all the good things the heart desires should henceforth no longer flow for the benefit of the despised priests, devoted to the devilish cult of false gods, but for the benefit of themselves, the worthy heralds of the only true and all redeeming faith — a problem whose successful solution has long since passed into history.

According to the chicleros, who certainly ought to know, the beautiful tsapotl beams were removed by Calistro Barrio, a Spanish business man heavily in debt, assisted by the chiclero Emiliano Vasquez and a master shoemaker (*sic !*) of Flores, whose name I have forgotten. But to the shoemaker fell the task of cutting away with a hatchet the beams at the back of the carving, in order thus to reduce their great weight, and make possible their transportation to Belice. Into what hands the two beams finally fell, nobody knows. At any rate it is to be regretted that this wood-carving, so very interesting in its unimpaired state, should have fallen a prey to the ignorance of a bankrupt tradesman, a usually drunken chiclero, and a shoemaker!

The third story of the palace (which to be consistent we must call its central part) has an elongation on the right (or west) in the shape of an apparently entirely solid structure, which projects three metres on the south side, and extends very nearly to the east side of the neighboring palace where I lived. The rear of this west wing faces the north court and has no projection, but is a continuation exactly in line with the north side of the third story. At the joining of this rear wall with the east wall of the structure

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forming the west boundary of the court, there remains an interesting fragment of the frieze, which I photographed with great difficulty, for that architectural relic has grown quite black in the course of time (Plate 7, Fig. 1).

The fragment of frieze displays a fantastic head surrounded by scrolls, and designed in such a way that a small human face appears below the nose which forms a tall pyramidal head-dress for the lesser face.

Where the latter addition joins the western end of the central part of the third story, it naturally covers up the frieze which formerly was entirely open, and therefore the symbolic design is very well preserved. After removing some stones of the already half ruined masonry of the added wing, I made a drawing of the head and added it to the ground-plan.

From the court I took a very good photograph of the north side of the central structure, which distinctly shows how the rear walls of the third, fourth and fifth stories have been superimposed one upon the other (Plate 8, Fig. 1). A perfectly plain course of projecting masonry can be distinguished, upon which rests the plain rear wall of the third story. The north frieze has an equally plain cornice above and below, and the smooth surface of the frieze itself is interrupted five times at regular intervals by the symbolic design described above.

To the east end wall of the middle part of the third story there had also been added a massive wing, which measured only about 196 cm. in length, and probably covered up the frieze design on that side. Above the three entrances of the south façade the frieze was very probably more elaborate, but since that façade has fallen down nothing can be known concerning it.

On the photograph the plain rear wall of the fourth story can be distinguished, with its equally plain frieze, slightly projecting and slightly sloping.

Of the ruined fifth story the lower portion of the rear wall can be distinguished, having a shallow niche in the middle spanned by a brace-shaped arch ⌒.

An additional structure on a considerably lower level is joined to the east side of the massive wing of the middle part of the third story. It recedes on the north side and consists of two transversely placed chambers, one in front with an east entrance, and another in the rear. These two transversely placed chambers have gracefully vaulted ceilings and are stuccoed with exceeding smoothness and neatness. Coalescent with these, and receding to a distance corresponding to their length, this time on a somewhat higher level, is the extreme east wing, consisting of two front chambers. Each had a doorway on the north side, and each a chamber in the rear. These coalescent wings forming right angles with the main structure, face a small, slightly sunken north court, which is also enclosed on the other two sides by what were once pleasing little structures.

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At the risk of exhausting the reader's patience, I must mention one more architectural complication. Over the two attractive transverse chambers described above — but retreating on their north side — are built two small longitudinal chambers. They are a front chamber entered from the north, with another chamber in the rear. (Of course, an apparently confused architectural description like this can only be comprehended by consulting the plan where everything is clearly shown.)

Fourth Story. Quite unattached on the east and west, the fourth story rises over the central part of the third story, receding only a very little on the south side. It consists of a gallery in front (now demolished) with three entrances on the south, and a second gallery very well preserved and with three doorways from the front gallery. In front of the forward gallery there is room only for a narrow esplanade, and it must be taken for granted that a wooden flight of stairs once led up to it from the broad platform below, which spreads out in front of the central part of the third story.

According to my measurements the inside length of the forward gallery amounts to 15 m. 32 cm., but it is only 110 cm. wide. The height from the floor to the truncation of the vaulted ceiling is 380 cm.

Following the general rule, the floor of the rear gallery is raised 46 cm. It is 14½ m. long, 163 cm. broad and 378 cm. high. A large bench, or stone bed, is near the east end of the gallery, and another with a wide step before it at the west end. Placing my photographic apparatus on this latter bench I succeeded with long exposure in taking a very fine interior view of the rear gallery looking from west to east (Plate 10, Fig. 2). The picture plainly shows the agreeable form of the truncated wedge-shaped vaulting, and the round tsapotl beams inserted at regular intervals, with a simple ornamental device in the middle. The strong tsapotl beams spanning the entrances are also well preserved.

On the smoothly stuccoed walls there were numerous incised drawings, dating from ancient times. This gallery, however, is frequently inhabited by tramps who have the bad habit of scratching off with their hatchets the damp, sticky moss which forms on the walls during the rainy season and adheres to any one coming in contact with it. Thus the incised drawings have been so badly injured that they cannot be copied. This sticky, blackish-green moss, by the way, turns a dull, pale green in the dry season, and becomes dry and crumbly, when it can be easily brushed off, during which process very extraordinary incised drawings come to light.

Fifth Story. The fifth story is half ruined but still gives evidence of having once consisted of a single long gallery with the usual three entrances on the south side, in front of which the terrace roof of the fourth story front gallery forms a convenient esplanade. It may be assumed that the length of this topmost gallery, whose side walls retreat about one metre at each end, is about two metres less than the corresponding gallery below.

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Here again we must assume that a wooden stairway, running obliquely across the façade of the fourth story, led from the narrow esplanade of the latter story to the esplanade of the highest story; or else that in front a wooden stairway ran from the spacious platform of the third story up to the esplanade of the fifth.

Allowing about $5\frac{1}{2}$ m. in height for each story on the south side of the central part, the total height of the five stories would amount to $27\frac{1}{2}$ m. measured from the lowest far projecting terrace to the topmost edge of the frieze of the fifth story.

The number of chambers in all the five stories, counting only those in the central part, amounts exactly to $3 + 4 + 4 + 2 + 1 = 14$ in all.

It is far more difficult to make an estimate of the number of chambers in the wings added on the right and on the left of the first, second and third stories. The extension added on the left of the first story may have contained eight chambers. The left wing of the second story may likewise have contained eight (or only six, if, instead of four smaller chambers in front, there were two fairly large galleries). The right wing of the second story had perhaps only one or two chambers. As to the third story it remained doubtful whether the massive right wing at the south side contained a chamber at all. On the other hand it can clearly be proved that the left wing, which is on a different level, contained $2 + 4 + 2$ chambers, two of which are upper rooms, and their entrances do not face the south, but some of them the north and some the east. This calculation would result in a total of about 24 chambers for all the added wings.

The five storied Sacerdotal Palace with its populous architectural surroundings, which should no doubt be regarded as the Acropolis of Tikal, in all probability afforded a magnificent spectacle from the terraces forming the approach to Great Temple V on the other side of the great ravine, or from the platform formed by the truncation of the temple-pyramid.

The north court belonging to the Palace of Five Stories is also enclosed on its north and east sides by structures of no inconsiderable size, as can be seen by consulting the general plan of the city. A passageway, in the northwest corner of the court, leads into the north court spreading out before the north façade of the neighboring palace, which likewise faces Great Temple V.

The Palace of Two Stories opposite Great Temple V, where I lived in 1895 and 1904 (Plan, Fig. 3).

Seen from the north court this structure rises upon a massive foundation about three metres in height with a wide central stairway. Toward the south the edifice is supported by high retaining walls built into the hill and reaching down into the south ravine.

The receding central part of the first story had three chambers with

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doorways on the north. The south side also had three compartments with entrances on the south not corresponding in arrangement with the chambers on the north side, but, as can be seen on the ground-plan, displaying certain deviations. I would call especial attention to a transversely placed cham-

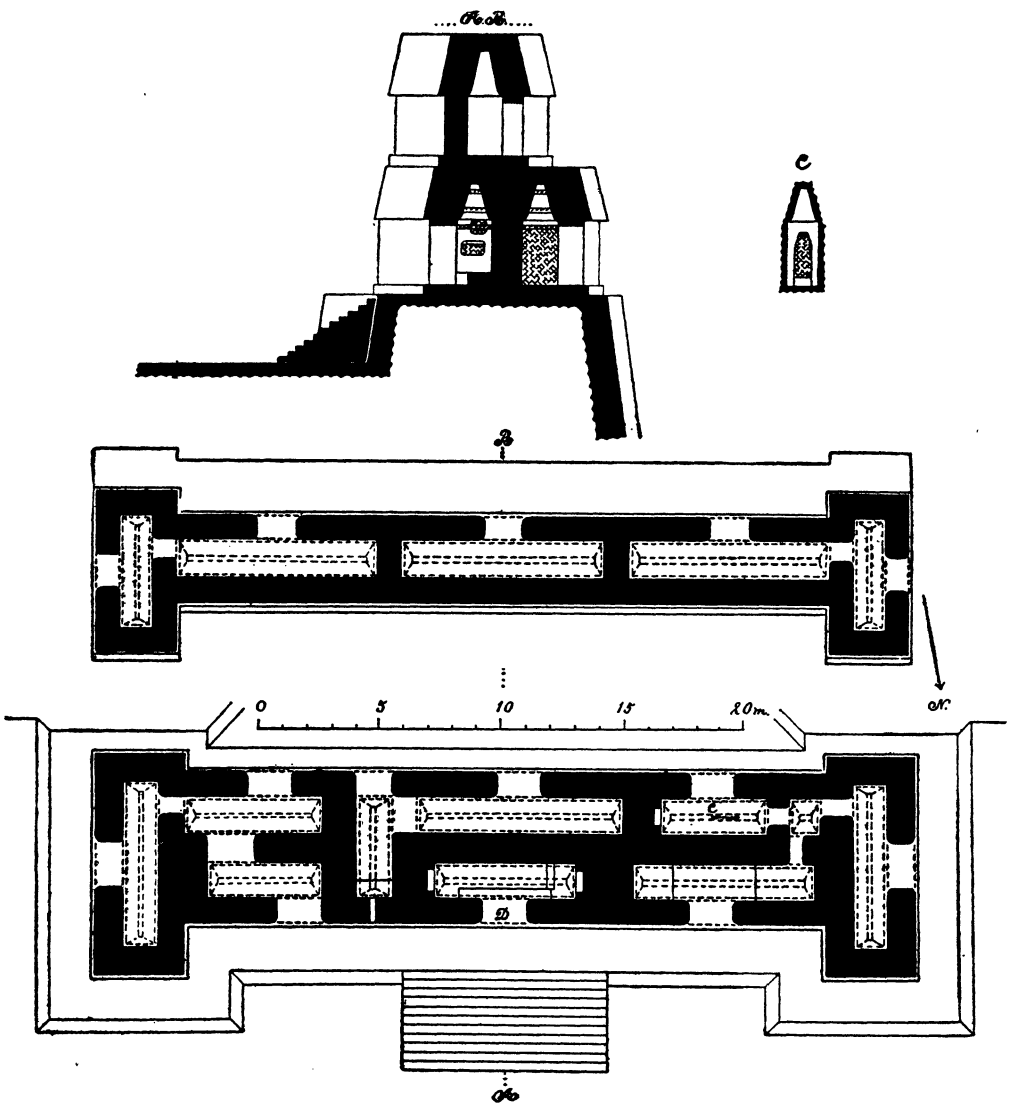

FIG. 3. — TIKAL: PLANS AND SECTION OF PALACE OF TWO STORIES OPPOSITE TEMPLE V. *D.* Habitation of T. Maler, 1895 and 1904.

ber adjoining the central apartment on the east, with a south entrance and a stone bench at the north end where there is also a small opening for ventilation. This double row of apartments in the central structure is finished off at either end by a transversely placed chamber each with an entrance on the east or west, as the case requires, and each connected with the adjoining longitudinal chamber on the south side by a narrow doorway.

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The entire length of the first story, measured from outside wall to outside wall of the transverse end chambers, is exactly 33 m. 60 cm.

The central north chamber has niches at each of its narrow ends and a large bench-like construction occupies almost the entire space. Since this great stone bed was extremely convenient both as a couch and as a table for my most important belongings, I occupied this chamber in 1895 and 1904. Upon this extensive stone bench during the nights of 1904 — the necessary supply of water having been brought from the distant aguada — I developed my negatives taken on celluloid films and they all came out most satisfactorily. In this country it is never well to let much time intervene between taking a negative and developing it, otherwise the risk of losing one's work is very great.

The photograph of this chamber taken in 1904 shows it from west to east, from the observer's point of view (Plate 10, Fig. 1). The picture plainly shows the great stone bench on which I worked and slept, the niches in the narrow end, the steep sides of the wedge-shaped, and, as usual, truncated vaulting with the horizontally inserted cross-beams, and also the entrance spanned by eight tsapotl beams.

The photograph of the exterior taken in 1895 (Plate 9, Fig. 1) shows the entrance to the central chamber, and in the frieze a fantastic head with proboscis, flanked on either side by scrolls and surmounted by ornamental work now become indistinct. This view also shows the rear wall of the upper story. The three Indians, who were not particularly obliging at that time, but whom I have long since forgiven, enliven the foreground. The friezes over the other two entrances on the north side also have conventionalized heads. Above the doorways on the south side were composite designs of figures in stucco (not gigantic heads) now badly mutilated. The retaining wall on the south side affords but a narrow esplanade in front of the entrances to the south chamber, which could only have been used by people with very steady heads. It is, however, probable that formerly the esplanade was rendered safer by a wooden railing.

The walls of the north chambers are smoothly covered with the finest white stucco and display a number of extremely interesting incised drawings of which I had already made tracings in 1895.

The second story rises above the north chambers and the two end apartments, leaving the north side and the sides of the two narrow ends quite without an esplanade. On the other hand, the flat roof of the south chambers furnishes a broad esplanade for the receding chambers on the south side of the second story.

The second story has a row of three chambers, each with an entrance on the south. The chambers at the end of each row have a little doorway leading into the transversely placed chamber. It must be taken for granted that a wooden flight of steps on the outside led up to the transverse cham-

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bers, or to the south esplanade, since there is no vestige of a stone stairway remaining.

If the most obstructive of the intervening trees were removed, the terrace of the south side of the second story would offer an excellent position for photographing Great Temple V, which faces the north. The light, however, is favorable only from May to August, when the sunlight falls from the northeast in the morning.

The first story of this palace has nine rooms (not counting a little inner recess) and the second story has five, a total of fourteen chambers.

As can be seen by consulting the plan of the city, the north court of this palace is enclosed on the other three sides by interesting smaller structures. The east side, as has already been said, is closely adjoined by that wing (now in ruins) of the Sacerdotal Palace, which has a grotesque head at the right angle formed by its coalescence with the third story. Leaving a passageway open in what might be called the extension of the wing just mentioned, there is a little structure with a central chamber (entered from the east) and two small end chambers. The northern end chamber is gracefully vaulted, having a north entrance and a bench against the partition wall which divides it from the central chamber. From this little chamber there is a splendid view of Great Temple I and its huge pyramid. It is seen strictly in profile, while the principal square of Tikal lies far below.

Parallel with this three-chambered structure lies another building also with three chambers, but these are of equal length and are placed one behind the other. The front apartment has three entrances on the east side, and from it three doors lead into the central chamber and three more into the third, while on the south side a narrow doorway opens into both the second and third.

Also parallel with the three-chambered structure, but to the rear of it, runs the east side of the nine-chambered structure, which had a tenth room added later, now wholly destroyed.

The arrangement of the nine chambers in this shape ⌐¬ can be distinctly seen on the general plan. These apartments with their well defined vaultings are still, for the most part, in a fair state of preservation. At the narrow end of one of the east chambers (where I have put an N on the plan) there is an interesting double niche spanned by a brace-shaped arch ⌒. From the rear (north) platform of this structure, that is, from the edge of the eminence on which it stands, the best diagonal view of Great Temple I can be gained, if men enough can be secured to cut down the intervening trees.

The southwest corner of the court is bounded by a small temple with a little pyramidal substructure. It is placed somewhat diagonally, so that the stairway and façade face northeast. This temple has only two small apartments now in ruins, one in front with an entrance in the façade, and an ad-

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joining one in the rear. The outer walls of the temple display vertical stripes.

Between this temple and the tenth room now in ruins, which was added to the nine-chambered structure, a long descent leads to a court bordered on the east by the two buildings last mentioned, while on the south (on the edge of the south ravine) lie the remains of a ruined edifice. A long heap of ruins bounds the north side of the square, and was formerly a single row of chambers with entrances on the south side now fallen, while the rear wall, facing the principal square, is still standing. The west side of the large court is closed in by a quadrangular edifice in the southwest corner, and the wing of a structure built with a rectangular turn, its ruined chambers having naturally faced the court (the east) while those of the other wing faced the principal square (the north). The rear wall of this latter wing facing the ravine is perfectly preserved. Also much of the retaining wall at this angle of the ravine is still in fair condition.

Before we enter the principal square and proceed with the description of its imposing architectural boundaries, it would seem to be the wiser course to retrace our steps to the Palace of the Grooved Walls, and then, after a brief digression to the northward, to turn about and advance from the east to the rear slope of the pyramid of Great Temple I.

Not far from the north side of the northern portion of the Great Palace of the Grooved Walls several small ruins lie scattered about. But first keeping as well as may be to the north, down below on the *planada*, we come to a square, horizontal rock, rising about one metre above the ground and constituting a landmark which indicates the right way to the aguada, lying further off to the north.

In these lowlying stretches of level ground (*planadas*) in the direction of the aguada, there are still numerous lemon and sour orange trees to be met with, the only trace left of that baleful band of Yucatecs, who, flying from the wrath of the Mayas, settled here during the second half of the nineteenth century to the great detriment of Tikal. The thirsty traveller, intent on preparing a refreshing draught, can always obtain a supply of oranges and lemons by sending here for them. These two varieties of trees, by the way, are almost the only ones that successfully resist for any length of time the tremendous encroachment of tropical vegetation on abandoned human settlements, while all other plants cultivated by man are soon overpowered and effaced.

Before leaving the subject of the aguada, important though it be, I must not omit to give the comforting assurance that even though it is apparently dry during the last months of the dry season (February to May), the traveller must not allow himself to be disconcerted by the lamentations of the ever discontented, ever homesick native servants, "no hay agua! no hay agua!", because an excavation, two or three metres in depth in the

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black earth of the aguada, will invariably strike a supply of cool, fresh water.

Turning toward the west from the flat rock, important only as a landmark, the explorer comes to a gently ascending, broad street sloping on either side down to the *planadas*. Near the eastern end of this street lie two small ruined temples side by side. After these come the east (rear side) of a tall edifice of three stories, and diagonally opposite this structure, to the right, lies a large rectangular terrace.

The Three-Storied Structure with Three Chambers in the Top Story. Though this edifice is built on a plan differing materially from the typical temple construction of Tikal, I nevertheless believe that the three chambers in a row in the top story were dedicated to the worship of deities. The façade of this remarkable structure faces the west. From the level ground in front of it a broad stairway of stone leads up to the first platform. Half way up the stairway is interrupted by a little projecting chamber, still well preserved, with an inside length of 215 cm., its width being only 90 cm., and its height, from the floor to the truncation of the little wedge-shaped vaulting, 240 cm. A niche, 50 cm. wide and 127 cm. high, is built into the rear wall (the longitudinal wall of the interior). It is quite probable that this niche once held an idol, and that the little chamber once formed what might be called an outer temple.

The second story on the terrace above on the same level as the flat roof of the outer temple is utterly demolished. All I could do was to make an approximate estimate of the mass of débris, and to assume on general architectual principles that it represented a double row of chambers, three in front and three in the rear. I know there are many objections to a restored plan, but the reader must admit that a tiny cabinet far below, and three large apartments up above are quite contrary to reason, and that there must have been something between. This something, according to my calculations, was a double row of chambers, which brings this plan of the whole construction within the bounds of reason.

It is probable that small flights of stairs, on both sides of the second story, led from the lower terrace to the one above, and thus to the entrances of the three chambers; on the other hand, stairways may have been run high up on both sides of the structure, from the level ground below to the upper platform.

The façade of the three chambers exactly faced the magnetic west, but is now in ruins. The middle chamber is 460 cm. long, and those to the right and left are each 410 cm. long. They are about 185 cm. broad. Their height from the floor to the truncation of the steep wedge-shaped vaulting is about 4 m. The outside length of the third story measured longitudinally is

[1] Plan not received. See No. 2, Figs. 20, 21, for plan and cross section. — EDITOR.

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17 m. 30 cm. From the esplanade in front of the three chambers, Great Temple V can be seen rising high above the tree tops to the southwest.

It would have been useless to have attempted to photograph the front of this badly ruined structure, so I took a picture only of the well preserved rear (Plate 7, Fig. 2). Besides the tall substructure, the picture shows the plain surface of the wall and the plain frieze belonging to what I assume to be the second story, and also the rear wall of the third story with two perpendicular lines of division indicating the partition walls of the three chambers.

The Great Terrace to the East of Great Temple I. Opposite the three-storied structure toward the north (that is, to the right in the direction in which we are going) there rises an enormous rectangular terrace, the purpose of which is not clear, since its extensive surface shows no trace of stone structures. It was, no doubt, a natural plateau, levelled off and made rectangular. Below, near the west slope of the terrace, lie low mounds of débris, the ruins of a structure which bounded an oblong court with an opening on the west. These mounds are the remains of rows of single chambers opening on the court. Opposite lie the ruins of a two-storied building forming a long rectangle. Opposite the latter, and quite near, is another structure likewise two-storied and of similar proportions.

From this point to the eastern base of the pyramid of Great Temple I and the fallen east façade of the long adjacent structure to the north of it, stretches an open plaza without buildings of any kind. While the northern slopes of the upper town previously described rise on the left of it, on the right, along the edge of the ravine, lie the ruins of three structures: a long, low mound of débris followed by another very much larger one, and thirdly a ruin crowning a massive substructure, which seems to have had a stairway on the south side.

Descending the slope behind these two structures and examining the large lower terrace I found, contrary to all expectations, a single sculptured stela, which I called No. 17. The figure in bold relief on its north side was very much impaired; as were also the glyphs on its narrow sides; but the reverse of the stela, which I photographed (Plate 27) still displayed handsome, well preserved glyphs. From the Great Terrace, upon which I found Stela 17, there is a still further descent down to the *planada* at the bottom of the ravine, which I regard as the continuation of the great northern ravine of Tikal.

The Principal Square of Tikal with its Architectural Boundaries on the East, West and North. The architectural boundary of the principal square on the south formed by the upper city — or Great Acropolis — has already been discussed. We will now describe Great Temples I and II and the group of north temples which occupy the entire north side of the square.

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Great Temple I (Plate 2). The pyramid of this huge structure closes the square on the east; its façade faces the west. According to the general rule of Maya pyramid-construction, the pyramid of Great Temple I (like those of all the others) has a projecting base about 2½ metres high. Upon this rises the pyramid proper in nine graduated steps, eight of which are divided into several horizontal sections, while the topmost is plain on the sides, and all are, as it were, recessed at the corners, which can be seen on the plan.[1] The corners of the base are never recessed. The length of the pyramid measured on the west side at the first steps (not at the base) is about 39 m., and the breadth of the west stairway is exactly 8 m. 75 cm. The steps, divided four times, as may be seen on the plan, have a height of about 3m. each, making the total height of the pyramid, from the base to the platform of the truncation about 27 metres, or, including the base, 29½ m., measured from the cement pavement of the square.

The coping on the upper edge of the pyramid steps has entirely fallen off, but, where the steps join the masonry sides of the staircase it can plainly be seen that there have been courses of coping stones.

Below on the square, close to the stairway, formerly stood two large, thick stelae, each with a circular altar before it. Both are now fallen to the ground, and a careful examination showed them to be without sculpture of any kind.

Above, on the platform of the pyramid, rises the temple proper on a base about 2 m. in height in front, with two rising gradations in the rear. A small flight of steps leads to the doorway of the temple as usual. The length of the temple measured in front at the west façade (not at the base) is exactly 11 m. 83 cm., the doorway being 271 cm. in width. Following the architectural middle line, the temple is exactly 759 cm. wide from the façade to the plain rear wall.

The doorway, 276 cm. in height, is spanned by two very broad but quite plain tsapotl beams, and leads into the first compartment of the temple. This compartment is 659 cm. long and only 74 cm. broad. Its height measured from the floor to the narrow truncation of the very steep, wedge-shaped vaulting is 531 cm. From the doorway to the temple there is a splendid front view of Great Temple II lying opposite, with III lying a little to the left, and the more distant IV, a little to the right, rising in the background above the sea of forest trees (Plate 1).

From this elevation the panoramic view was photographed in 1895, and also in 1904 with gratifying success on each occasion.

From the platform of the third temple of the front row of the group of temples on the north side of the principal square, a diagonal view of Great Temple I was also successfully taken showing it from the northwest (Plate 2).

There are large, white hands surrounded by red spatterings, and a few

[1] Plan not received. See No. 2, Figs. 29, 30, for plan and cross section. — EDITOR.

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red hands painted above the entrance to the second temple chamber on the surface of the vaulting, and also below the spring of the arch. There can be no doubt as to a difference in the meaning of the red hands and the white, though we do not know what it is. After inspecting the red and the white hands, I examined those smooth walls very closely for incised drawings and discovered the roughly, but deeply incised figure of a dancing devil! It was evidently incised by the hand of an ancient priest after this grand old Maya city was abandoned by its inhabitants, and the contemplation of it aroused a feeling of bitterness and melancholy in the breast of the beholder, and served as a reminder of the transitoriness of all earthly splendor. This devil, showing his teeth in a mocking grin and dancing in the abandoned halls of the proud temples and palaces of Tikal, only proves once more how true it is that whenever human endeavor after fearful struggles has attained to a certain high degree of civilization, it is destined to decline and fall according to an inflexible cosmic law. Thus it was with Babylon and Nineveh, Memphis and Thebes, Carthage and Palmyra, "the devil is dancing everywhere" — and so will it ever be!

Ascending by a step 33 cm. in height and passing through a doorway 243 cm. wide, the second temple chamber is reached. This doorway is or was spanned by four strong tsapotl beams richly carved on the under side. Two of these beams were torn out by unauthorized individuals and carried away, while two are still in place. The principal personage of the somewhat impaired wooden bas-relief has a fantastic head attached to his back. The length of this chamber is 476 cm., and its width is 75 cm.

Ascending 20 cm. higher, a doorway 188 cm. wide leads into the third temple chamber. This entrance was formerly spanned by five tsapotl beams richly carved on the under side. They have all been torn out by mischievous persons and four have been carried away. I found only one of them lying on the ground in 1895. The figure carved upon it shows a handsome profile. The length of this apartment is 528 cm., its width 71 cm. The longitudinal wall still has faint traces of drawings in red.

The exterior of the pyramid and that of the temple with its roof-comb are adequately represented on the two photographic views. The step-pyramid shows the recessed corners. It should be borne in mind that the topmost step, the ninth, has not the horizontal divisions of the rest, but has plain sides. The photographs also show the plain base of the temple with its smooth walls. The frieze displays great ornamentations over the doorway on the west side and also at each corner, of which the central figure seems to be a large grotesque face. The west side of the receding roof-comb is likewise very richly decorated. In order to expose it to view in some measure, a ladder had to be fastened to the outside of the temple, so that one of the men could climb upon the roof-terrace to clear away the ugly shrubs which concealed the carving. The roof-comb probably rose up

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in three sections, the top one of which is now mostly demolished. The man, who climbed upon the *azotea*, said he had found a very tiny chamber in the middle of the first section of the roof-comb at its base (a kind of niche), which however contained nothing of interest.

The total height of this interesting structure is computed as follows:

From the cement pavement of the square (inclusive of the projecting base) to the truncation of the pyramid, 29½ metres.

From the platform formed by the truncation (including the base 2 metres high in front) to the upper edge of the frieze.

From the azotea formed by the roof of the vaulted front chamber to the highest point of the roof-comb (adding about 3 m. for the portion fallen off) *17.7*[1] m., giving a total of *47.2* m. from the level ground of the square to the highest point of the roof-comb (restored).

Great Temple II (Plate 3 and Plan, Figs. 4 and 5). The west end of the square is occupied by Great Temple II, the façade of which almost exactly faces the east of the magnetic needle.

A projecting step about 1½ m. high also serves here as the base of the pyramid. The three large and steep steps rising up from it are each about 6½ m. high, having certain horizontal divisions and the usual recessed corners. It is probable (but not absolutely necessary) that the large, slightly sloped sides of the steps had a projecting cornice, which has disappeared.

The base of this pyramid is, I believe, an equilateral square, each side measuring 34 m. at the first step. The platform on top is 21½ m. square. A stairway about 9 m. wide, before which we found a circular altar but no stela, leads up from the plaza to the platform upon which stands a substructure 2 m. in height (in front), upon which rises the temple proper. As usual a small front stairway leads up over the middle of the substructure to the entrance of the first temple chamber. The front length of the temple (measured not at the slightly projecting base but from wall to wall) amounts to exactly 13 m. 95 cm. Breadth, measured from the central line of the structure, is 10 m. 51 cm.

The doorway is 225 cm. wide and 265 cm. high and was formerly spanned by five strong tsapotl beams, which, alas! have been wantonly torn out, causing a great mass of masonry to fall down, together with the frieze and vaulting resting upon it. Whether the tsapotl beams were carved on the under side and what has become of them, nobody can tell.

The first temple chamber is 485 cm. long and 115 cm. wide.

A low step 215 cm. wide leads through a doorway into the second temple chamber. This entrance was spanned by five beams of tsapotl with very

[1] Measurements given in italic figures from here on were omitted by Mr. Maler and are supplied by the Museum Expedition of 1910. — EDITOR.

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fine carving on the under side. All these beams were torn out by plunderers of this temple and three were carried away.

In 1895 I found one of these richly decorated beams which had been left behind in the temple. In 1904, searching among the fallen masonry, I found a second beam half burned, and evidently purposely hidden away. While

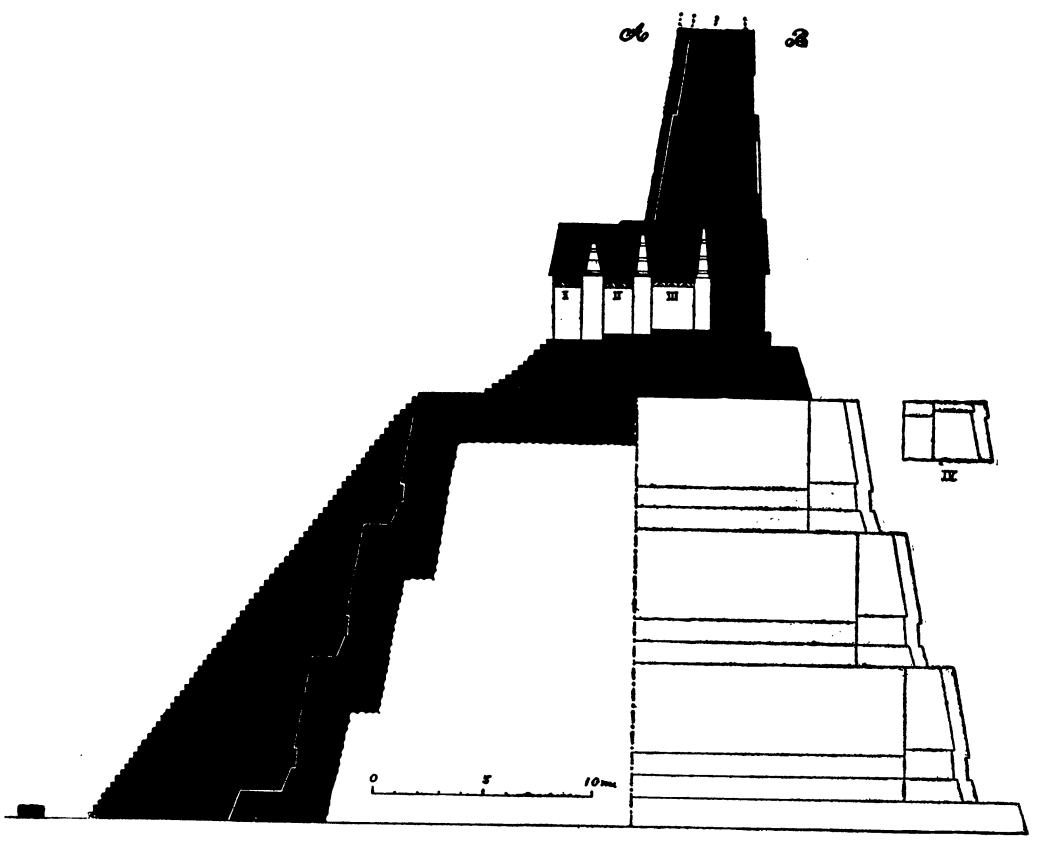

FIG. 4. — TIKAL: SECTION OF TEMPLE II. I. Five crossbeams of zapotl wood have been taken from their places. II. Five crossbeams of zapotl wood with figures in low relief, one is entire, one half-beam still in temple and three are missing. III. Six crossbeams of zapotl wood.

charring the two ends, the beam was probably half burned up and therefore the pillagers hid the remains under the débris in order to conceal all traces of their depredations. I had both the beams carried out and placed side by side upon the platform, where I photographed them when the light was favorable. The carving, which represents a sumptuously dressed priest, came out so exceedingly well in the photograph, that I can save myself the trouble of describing the excellent details of the work (Plate 18, Fig. 2). I will only say that the half-burnt fragment of the second beam, which I placed beside the first, very evidently does not belong to it, but probably formed the front of a carving of a similarly attired priest.

The second temple chamber is 495 cm. long by 100 cm. broad.

Another low step brings one to the third temple chamber through a door-

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way, 193 cm. wide, spanned by six perfectly plain tsapotl beams. The third temple chamber is 350 cm. long and 94 cm. wide. The height from the floor to the narrow truncation of the very steep, wedge-shaped vaulting is 520 cm.

Upon the smooth, whitened walls of the apartments of this temple I found

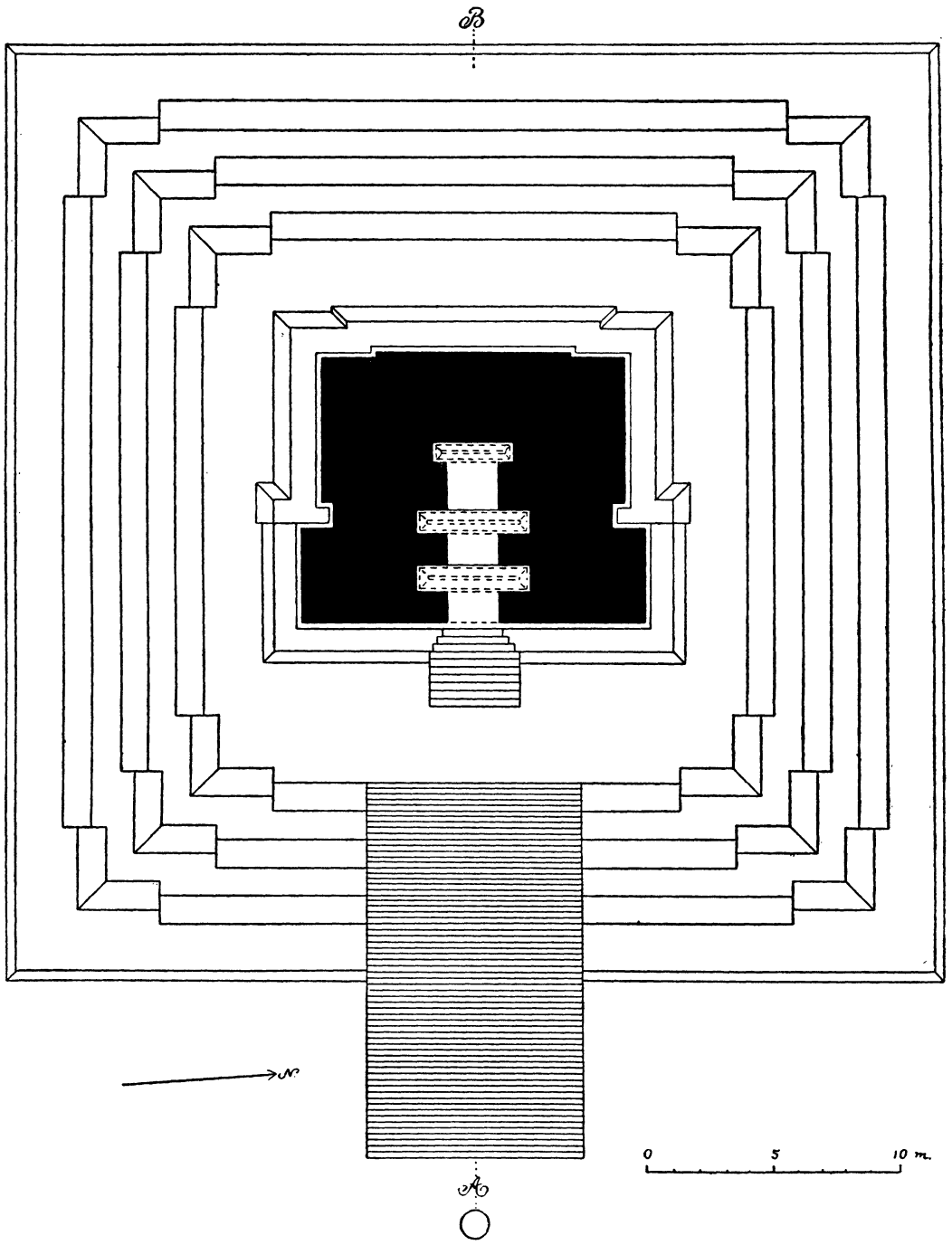

FIG. 5. — TIKAL: Plan of Temple II.

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very interesting incised drawings. They were copied in 1895 and are shown in Figures 8–11, 16.

In order to give a better idea of this structure, two photographs were taken. One, taken from the doorway of Great Temple I, gives a full front view (Plate 1). The other, taken later from the platform of the second temple of the north group of temples, gives a diagonal view of the temple as seen from the northeast (Plate 3).

The frieze on the east façade doubtless had three great decorative carvings, one in the middle over the doorway, and one at each corner which, as usual, turn the corner to include on the other side the wall of the narrow ends of the structure.

Receding to the width of the terrace-roof of the front apartment of the temple, rises the enormous roof-comb, probably in three sections, of which the top one has fallen down. The roof-comb shows on its east side the most elaborate carving of figures it is possible to imagine. It is probable that below all this was a conventionalized gigantic face constructed of stones and stucco. If this supposition is correct then the circular design with its pendants, on either side of what was once the giant face, can be regarded as its ear-ornaments.

On all five great temples the division of the roof-comb into three sections can be more readily distinguished at the sides and back, than on the richly decorated front.

This temple construction is 21 m. high from the cement pavement of the square (including the base) to the platform of the truncation. From here to the highest point of the (restored) roof-comb (assuming it to have been in three sections) the measurement is 22½ m. giving a total height of approximately 43½ m.

Closely adjacent to the south side of Great Temple II, rises the not inconsiderable pyramid of a neighboring temple. This pyramid has a stairway on its north side, for the façade of its temple faces north, that is, it faces the right wing of Great Temple II. Like almost all the great temples of Tikal the temple proper occupying the platform had the typical division into three apartments. Unfortunately it is now an almost total ruin. From the platform of this pyramid an excellent, strictly profile view of Great Temple II can be had, which I recommend to a future visitor.

A few steps to the west of the temple just mentioned, rises another pyramid of considerable size and of similar construction, with a stairway on the north side of the substructure, and the threefold division of the inner space of the temple proper.

The rear sides of both temples overlook the south ravine already mentioned several times.

Along the north edge of the principal square (near the foot of the terrace constructed on that side) there is a row of 13 stelae varying in size

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Seven are sculptured: — Nos. 8, 9, 10, 11, 12, 13, 14. Placed somewhat in advance of this row is another of five large, thick stelae quite without carving. Each of these stelae (excepting the little inscription-stela, No. 14, which is broken off) has a circular altar in front of it. The total number of stelae in the square is twenty, including the two in front of the stairway of Great Temple I. The number of circular altars is the same, if, as it seems, there is no stela belonging to the altar in front of the stairway of Great Temple II.

While describing the architectural centre of Tikal, I am reminded of an event which transpired during the second half of the nineteenth century to the detriment of this metropolis, lying hidden in the depths of the primeval forest, and hitherto untouched by the destructive hand of man.

Flying from the horrible conditions prevailing in the south of the peninsula of Yucatan, two groups of fugitives had sought protection in the territory of Peten, one settling near the Laguna de Santa Cruz (probably near the present Chúntukil), the other near the Aguada of Tikal.

It would doubtless have been in the interest of the rapidly decreasing population of Peten, if its government had welcomed all immigrants willing to work, with open arms, and assigned them land for agricultural purposes. It was however an unpardonable mistake on the part of the authorities of Peten to permit this group of fugitives to settle close by the ruins of Tikal, for owing to the well known ruthless character of those rude and ignorant people, it could only result in the destruction of the magnificent monuments of ancient days. There was a superfluity of land upon which they might have settled without doing the least harm. In order to gain ground for their milpas, the settlers near the aguada lost no time in cutting down the forest right across the principal square, gradually pressing forward as far as Great Temple III and then setting fire to the felled trees after they were sufficiently seasoned. This huge bonfire naturally had a disastrous effect upon the sculptured stones in the square and on the terrace constructed on its north side, horribly calcining and cracking them. As if enough mischief had not been accomplished, the faces of the sculptured figures were defaced by hacking, because among the Spanish Yucatecs the superstition prevails that the spirits standing in relation to these figures, angered by human interference, could do the milpas no harm after their faces were mutilated. Encouraged from time to time by treasure seekers from Peten-Itza, this band of settlers raged for years quite undisturbed among the treasures of the grand old ruined city. But in course of time the great distance from other settlements grew irksome to the colony and the settlers gradually dispersed in different directions. The Peteneros, however, ascribe the breaking up of the colony to a plague of bats. Great bloodthirsty bats began to swarm at night about the huts in the forest sucking the blood of chickens, pigs, and other lesser domestic animals, gradually killing them off. Even children

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were in danger of being similarly attacked at night. It was therefore not the government of Peten stepping in to prevent the depredations carried on by the settlers, but it was the bats, which saved Tikal. Since I discovered long ago, that in ruins inhabited by bats there are none of those dangerous wasps which so furiously attack the traveller, I have felt a sympathetic regard for those mysterious little nocturnal mammals; but after hearing that the bats had driven away the destructive band of Yucatec depredators from Tikal, I have looked up to them with the highest esteem.

I must add the regrettable fact, that while the authorities of Peten-Itza in no way interfered with the destructive course of the Yucatec settlers in Tikal, the harmless people, who settled in Santa Cruz without injuring any one, were grievously harassed and finally quite driven away by the brutalities of Colonel Sala.

Along the whole north side of the principal square lies an extensive levelled off elevation, rising only about 3 m. above the level of the ground, which serves as an esplanade for the group of north temples. Upon this terrace, receding considerably from its edge, stand four temples differing in size, the third of which (counting from the west) corresponds with the architectural centre of the whole group. All four have a pyramidal substructure and their façades face south, that is, they look on the square. All have the typical three-chambered arrangement within and the peculiar recessing on the outside at the narrow ends between the first and third chambers. The façades of all four temples have fallen down. From the floor of the second (counting from west to east) I took a diagonal view in 1895, which plainly shows the strongly outlined architectural divisions of this temple and makes further description unnecessary (Plate 9, Fig. 2). It should be borne in mind that the picture shows the base, the main wall and frieze of the temple, but not the pyramid partly set against the hill which serves as a substructure and more of which is visible in a front view.

The east side of the terrace is bordered by two little temples standing on a common platform, with façades turned to the west. Each temple has two little compartments; one in front and a very narrow one behind. Close to this temple, on the north, on a small platform with a little stairway on the west, is another little temple with three diminutive chambers, the front one being slightly longer than the other two.

Close behind these three transversely placed little structures, but below the terrace, is a long similarly placed edifice whose now demolished façade was turned toward the east. Whether this structure had a double or single row of apartments cannot now be determined, although the rear wall still stands intact.

Upon this lower, common terrace, I found in all fourteen stelae, each with its own circular altar. The arrangement of these stelae is shown on the general plan of the city, and seems to point to the fact that a certain relation

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exists between them and the temples. Of these fourteen stelae, five — Nos. 3, 4, 5, 6, 7 — have bas-reliefs. Of the circular altars, four — I, II, III, IV — have bas-reliefs.

Ascending the slope of the hill to reach the side of the temple-pyramid forming the centre of the group, we come, half way up, to a narrow rear court. The north side of this court is occupied by a building enthroned upon a small substructure having a chamber of considerable size in front and three little apartments in the rear. The façade with its three doorways, now demolished, faced the south, and on this side also was the stairway supported by the substructure. Close to the foot of the stairs, in the narrow court, I found a stela in 1895, which I called No. 1. It was almost wholly buried under the great mass of débris which had fallen from above. The top was gone, probably struck off by a falling tree. When we excavated this stela in 1904 we did so within a wide circle described around it, in order to enable me to photograph it on all sides; in doing so we came upon, not the missing top, but the upper half of a similar stela, which I regarded as a predecessor of the first one, and therefore called it No. 2. There was no circular altar in front of Stela 1.

Ascending three or four metres to the right or the left of this structure, the upper terrace is reached; that is, the truncation of the hill, which had been squared and levelled. In the architectural centre of the whole construction rises the chief temple of the north group, which may with truth be regarded as *the lesser acropolis, situated on the north side of the square.* This temple also crowns a pyramidal substructure of considerable height with a stairway on the south side. As a matter of course, this temple, now half demolished, faces the south and shows the usual triple division of space within, the front chamber being somewhat larger than the rear chamber, and the middle one slightly contracted. From this platform the ancient priests, no doubt, enjoyed a magnificent view of the great square and its architectural surroundings. At the back of this pyramid the hill slopes far down to the great north ravine of Tikal.

Transversely placed on the right and on the left of this temple, upon the usual substructure, stand two similar three-chambered buildings, the façade of one facing east and the other west. In both cases the front apartment is somewhat longer than the two chambers in the rear, which are of equal length. These spacious apartments, partially well-preserved, have very fine vaultings and the exterior, at least on the sides and the back, shows interesting architectural divisions into sections. The two buildings were probably not temples but stood in some relation to the temple standing between them.

On the north, close beside each of these transversely placed buildings, stands a small two-chambered structure with front and rear chamber. These latter structures face the north and closely border on the edge of the declivity.

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The Palace of Two Galleries. A raised pathway, forming a right angle on the west side of the lower terrace, leads to a palace with two fine long galleries, one now in ruins in front, once, probably, with five doorways, and another in the rear, still preserved, with only two doorways leading from the front gallery. The façade exactly faced the magnetic south. The rear and side walls are still intact but their friezes have fallen down. The exterior length of the structure it about 30 m., and accordingly the inside length of the gallery is about 27 m. The width of the second gallery is exactly 167 m. The sharply outlined and carefully constructed vaulting is strictly triangular, truncated as usual and of agreeable proportions.

A wide terrace spreads out on the south side of the palace. Upon this terrace I found six stelae with their circular altars, partly broken up and calcined and all in great confusion. Only one of them, which I numbered 15, showed any traces of carving, and even this was broken into so many fragments that it baffled comprehension. All the others were quite plain. The milpa fires, set by those miserable Yucatecs, no doubt also raged on this terrace, otherwise the stelae could not have been so badly injured. The only stela with carving was evidently intentionally broken in pieces, owing to the superstitious belief mentioned above.

Near this terrace I found two half filled up *chultuns* (rain wells) which may yield some trifling objects to a future explorer.

Great Temple III.[1] Proceeding in a westerly direction from Great Temple II, Temple III is reached with its façade facing the east. The pyramid, which serves this temple as a substructure, rises from a projecting base in nine steps, which show the peculiar recessing at the corners. It may be taken for granted that the first eight steps had the same horizontal divisions as those of the pyramid of Great Temple I, while the ninth had only plain, steeply sloping sides, if it is true that the architects of Tikal invariably followed this rule in the construction of great pyramids. Since the facing of the steps had all fallen off owing to the destructive effect of vegetation, I could no longer determine their exact form at any point. The stairway on the east side leading to the top platform is about 13 m. at the base and grows narrow toward the top. The length of the pyramid measured on the east at the first step is about *49* m.

The temple on the platform made by the truncation, stands on a base about two metres high in front and a little higher at the back. As usual a little flight of stairs leads up over the base to the doorway of the front apartment of the temple. The length of the temple, measured in front on the façade wall (not at the base), is 1639 cm. The breadth of the structure, measured from the façade wall to the rear wall at the architectural centre line, is 890 cm. The doorway is 395 cm. wide and 333 cm. high, and leads

[1] Plan not received. See No. 2, Figs. 41, 42, for plan and cross section. — EDITOR.

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into the first apartment of the temple. It was once spanned by six broad and thick tsapotl beams, which have been pulled out and carried away by depredators, and this makes it impossible now to say whether they were carved on the underside or not.

Great Temple III has but two chambers. The first apartment is 671 cm. long by 161 cm. broad and 653 cm. high. A single step brings one to the second apartment through a doorway 213 cm. wide by 318 cm. high. The length of this chamber is 344 cm. by only 72 cm. wide and 618 cm. high. The doorway is (or was) spanned by ten tsapotl beams very richly carved in bas-relief on the underside. When I first visited Tikal in 1895, the first of these beams had already been removed — the prey, no doubt, of some robber. Very probably this beam had a double row of hieroglyphs like the tenth, which has $2 \times 19 = 38$ glyphs. Unfortunately they are badly eaten by *commehen*. Otherwise this lintel carving was still in fair condition in 1895, and on my return in 1904 I intended to photograph it at night with the aid of magnesium light. I was therefore greatly disappointed to find, that in the meantime, vandals had hacked off great pieces with their machetes, so seriously mutilating the whole that I was obliged to forego any attempt at photographing, which would have been difficult enough under the best of circumstances. I can therefore only give the reader the description I made of this carving in 1895, when it was in a very much better condition. The first and tenth beams being counted out, the carving occupied the remaining eight and showed three personages nearly life size, most elaborately attired, their faces drawn strictly from the side, displaying the familiar pleasing Maya profile. The personage of high rank in the middle holds out a staff of ceremony and has a fantastic head attached to his back. Opposite the central figure stands another personage of high rank stretching out in his right hand a staff of ceremony toward the former. Behind the central fig ure is a third in a stooping attitude raising the right hand and holding a ceremonial staff in the left. Between the two latter figures is a small altar (?) with rounded corners ornamented with crosses and disks, while above the stooping figure there is room for the half length picture of another personage with an agreeable profile. The drawing of these sacerdotal forms and their elaborate accessories is excellent and spirited. Indeed, the entire carving is executed with superior skill which makes its destruction all the more to be regretted. As can be seen on the diagonal view of this temple (Plate 4) the frieze of the east façade also has three decorative designs, — one in the middle, which fell off when the lintel beams were torn out, and one at each corner which turns so as to include the wall on the narrow side. An imposing roof-comb rises from the flat roof of the temple in three sections, with a backward pitch in front. The whole east side of the roof-comb is most richly decorated with figure ornamentation which turns at the rounded corners to include the adjoining narrow sides of the structure.

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The height of the pyramid is 32½ metres from the natural level of the ground (inclusive of the base) up to the platform of the truncation. The height of the temple was computed at *21.7* m. from the platform (including the massive base) to the highest point of the roof-comb (adding about three metres for the part fallen down). Hence the total height of Great Temple III is *54.2* m.

The distance between Great Temples III and IV is considerably greater than between II and III. The intervening space is filled out architecturally by a line of three palaces of great length. The central one of these, now wholly in ruins, could have had but one story, while the other two plainly had two stories. To the west of the line of these three structures there are two small temple-pyramids, not placed side by side but one behind the other, and then comes the lofty terrace upon which is piled up the stupendous pyramid of Great Temple IV.

The Palace of Two Stories with 14 + 7 *Chambers, in the Rear of Great Temple III* (Plan, Fig. 6). The first story of this palace, with its façade fronting east, rises on a massive substructure having a broad stairway on the east. The central portion of this palace has five large chambers in front, each with an entrance on the east, and opening into five other chambers, on a somewhat higher level, in the rear. The apartments in front are 175 cm. wide and have admirably carried out stepped vaultings; those in the rear have merely plain wedge-shaped vaultings. The façade being broken down, it was quite impossible to take a photograph of any of the front apartments, but I photographed one of the rear chambers, that at the south end of the row, with the aid of a magnesium light, since the wide but low window and the two little doors admitted insufficient light from the outside (Plate 11, Fig. 1). The photograph was taken looking from north to south, and shows the character of the wedge-shaped vaulting with the round tsapotl beams transversely inserted still in place.

In the rear chamber next to the one photographed, the floor is almost wholly occupied by a high bench, at the end of which two steps lead down to a little doorway opening into the central chamber of the back row. This middle apartment is 830 cm. long and has no window, for it receives sufficient light through the doorway of the front room. These rear chambers are all about 146 cm. in width. The fourth one of this row has a great stone bench with little masonry walls at each end by way of arms. This bench runs along the second longitudinal wall near the window. There is nothing more to be said about the fifth chamber than that it also has a window and a little doorway connecting it with the front apartment, and another leading into the transversely placed rear chamber of the north side; for, adjoining the central part of the first story on the south and north, there are two transversely placed chambers, one in front with another behind it.

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Each front chamber has an entrance on the north or on the south according to position, and a broad platform before it formed by the massive substructure. The whole length of the first story from the south wall to the north wall is 52 m.

As there is no vestige remaining of a stone stairway, it is probable that a flight of wooden steps led to the second story, which is set back sufficiently

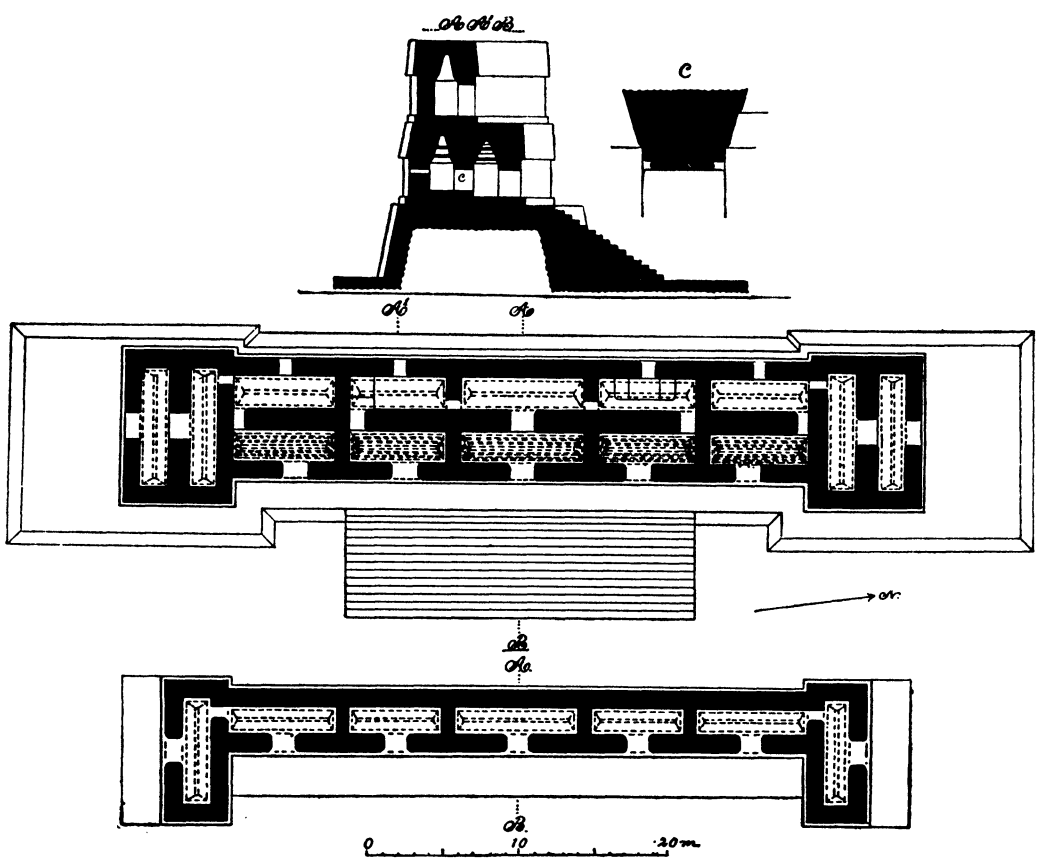

FIG. 6. — TIKAL: Plans and Sections. Palace of Two Stories and 21 Chambers in Rear of Temple III.

far on the east to allow the flat roof of the front apartments of the first story to form a broad esplanade in front of the row of five rooms, each with a doorway fronting east.

At each end of this row of five rooms there is another chamber transversely placed, each with an entrance on the north or south, according to position, and each with a little platform before it formed by the flat roof of the front apartment below. The second story is nearly all in ruins but the division into seven chambers can still be traced.

There is little to be said of the ornamentation of the friezes of the broken down façade, excepting that the frieze on the west side of the first story is still well preserved. This has a slight inward pitch and a plain surface with fantastically conventionalized faces (*mascarones*) carved upon it at inter-

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vals, and also at the corners. They are too indistinct to be photographed, but I would recommend visitors to Tikal not to omit looking at them.

The spacious court on the east of the palace is bounded on the north and on the south by a low barricade of débris, being the ruins of rows of single apartments. The court is open toward the east.

This important structure, containing in all 21 chambers, was no doubt the sacerdotal palace belonging to Great Temple III.

After this palace comes a long, low mass of débris lying in a northerly direction, which must have been a structure containing a double row of apartments. Then follows, still to the north, the huge ruins of a two-storied structure, which may be regarded as standing in some relation to Great Temple IV, since it faces the latter.

The Sacerdotal Palace Belonging to Great Temple IV. A stupendous mass of débris rises on a rectangular platform, which is formed by a massive substructure and is reached by a stairway on the west. The débris represents a structure of two stories now so completely ruined that a restoration of the original plan is quite out of the question. Only the massive rear wall of the first story still stands and shows that the entirely unbroken east side (the rear) of the edifice had no entrances and that the whole structure fronted west. A little further to the north or northeast of this palace there are said to be the ruins of a small temple (*un pequeño cuyo*), which I was unable to inspect. One of the men said he had seen it, and that there were two or three plain stelae on the little plaza in front.

Upon the square between the row of palaces just now described and the great terrace on which stands Great Temple IV, there are two little temples standing close together one behind the other, each with its façade and the stairway of its pyramidal substructure fronting west. Both temples are in ruins, but it is sufficiently clear that they had the typical triple division of chambers.

On the plaza in front of the west side (as we are now proceeding) of the first temple, five large thick stelae are set up in a row, each with its circular altar. A little in advance of this row upon the line of the architectural centre, is a somewhat smaller sixth stela, also with a circular altar before it. The six stelae are all plain. Somewhat in advance of this temple is placed the other similar structure, but without stelae or circular altars on the plaza before it. A little to the north, fronting the north side of this second temple and very near it, is a masonry quadrangle once, no doubt, containing small chambers and having an entrance on the south. In the middle of this quadrangle stands Stela 16 in all its glory, still unharmed, and in front of it, deeply buried in the earth, we found Circular Altar V, which was destined to become so widely renowned. The priests, no doubt, covered this splendid specimen of Maya art with earth, when the city was abandoned, to preserve

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it from destruction. But we must assume that even in Maya times this circular altar was protected from the rains by some kind of a roof, for the sculpture on its upper surface looked like new.

Great Temple IV[1] (Plate 5). This temple stands on an eminence eight metres in height and probably natural, though artificially levelled off on the top. On its eastern slope is a broad stairway, the steps of which have long since fallen down in confusion. Standing back about fifteen metres from the eastern edge of the levelled-off surface rises the stupendous pyramid which serves the temple as a substructure. The base of the pyramid is almost entirely covered up by débris, and its steps are in such a ruinous state on all four sides, that their former division into horizontal sections is no longer apparent. The number of steps was doubtless nine and their division into horizontal sections probably like that of the steps of Great Temple I. It should also be assumed here that, while the first eight steps showed the horizontal divisions, the ninth step had only smooth, steeply sloping sides. The familiar recessing of the corners must unquestionably also have been applied to the steps of this pyramid. A stairway, which together with its side walls had a considerable projection at the base, leads up on the east side of the pyramid to the platform of the truncation. This stairway like those of Great Temples III and V is broader at the base than at the top. A large plain stela with a circular altar before it stands directly in front of the stairway, and is at present in the grasp of a mighty kopó tree (*Ficus Indica*). The breadth at the bottom of the stairway is 18 m., at the top 16m. The whole length of the pyramid measured at the first step of the east side (not at the base) is *58.7* m. The breadth, much less, is *53* m. The platform on top measures *32* m. in length, by *14* m. in breadth.

The temple proper has a smooth, slightly projecting base about 2 m. high in front, and a little more at the back. As a matter of course, a little stairway leads up in front over the base from the platform to the first apartment of the temple. The wall of the façade measured from corner to corner, not at the base, is exactly 30 m. 30 cm. in length, which is very long for one of these elevated temples. The breadth of the structure, measured at the architectural centre, is 1213 cm. A doorway 310 cm. wide by 317 cm. high leads into the first temple chamber. This doorway is spanned above by six broad tsapotl beams, plain on the under side.

The first chamber is 650 cm. long, 124 cm. wide and 678 cm. high.

A step 40 cm. high leads to a doorway 212 cm. wide and 319 cm. high, opening into the second temple chamber. This entrance was once spanned by six broad tsapotl beams, which undoubtedly were carved on the under side. They have all been torn out and carried away, no one knows by whom or whither. Judging by the size of the sockets in the masonry on each side

[1] Plan not received. See No. 2, Figs. 44, 45, for plan and cross section. — EDITOR.

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of the doorway the beams must have been very broad, and have had the finest carving in the whole temple. The second temple chamber is 464 cm. long, only 74 cm. wide and 690 cm. high.

Another step 40 cm. high brings the explorer through the third doorway into the third temple chamber. This doorway is 194 cm. wide and 329 cm. high, and is broken through a partition wall 237 cm. thick. It was formerly spanned by eight (possibly only seven) tsapotl beams, which were torn out and carried away for their carving. The length of the third temple chamber is 438 cm., the width is only 70 cm. and the height 685 cm.

It is not unlikely that the tsapotl beams which spanned the third entrance in Great Temple IV are those which Dr. Gustave Bernoulli, who visited Tikal in 1877, sent to Europe and which his heirs have presented to the museum at Basle.

At the end of June, 1877, I undertook an expedition to Palenque, starting from San Cristóbal de Las Casas, which is situated high on the table-lands of the state of Chiapas of which it is the capital. The present rulers have added a quite superfluous *s* to the end of Chiapa.

Dr. Gustave Bernoulli, accompanied by a young German, Herr Cario, coming from Retaluleu (Guatemala) by way of Comitlan and Ocotsinco, arrived July 16, 1877, at Palenque — that is, at the modern village of that name — intending to visit the neighboring ruins. During this journey, Dr. Bernoulli, aided by Herr Cario, collected many specimens for an interesting herbarium, but found much difficulty in drying the plants between layers of paper, owing to the great humidity of the atmosphere at that season. We interchanged a good deal of information concerning this country and became very good friends. On July 26, Dr. Bernoulli and Herr Cario left Palenque to continue their journey to Peten-Itza (Flores) and thence to the capital, Guatemala. Dr. Bernoulli was at that time already suffering greatly from weak lungs. He was amply supplied with funds, but I feared he would not be equal to the difficulties of the journey, though there was comfort in the knowledge that he had a strong young companion with him.

After safely accomplishing the journey, Dr. Bernoulli wrote me a letter from Retaluleu under date of October 22, 1877, which I received at San Cristóbal, whither I had returned. He wrote that he had succeeded in visiting Tikal in the neighborhood of which, near the aguada, a few Indian families were still living. Some of the great structures still contained woodwork. The "wooden ceiling" (what I would call the under side of the lintel beams) of one of the temples was still intact and was adorned with fine carvings in bas-relief. He had obtained permission from the government of Guatemala to take out this "wooden ceiling" and send it to Europe, and he had sent money to the alcaldes of San Andres and San José to cover the expenses of removing the beams and transporting them.

In order to decide the question whether the beams in the Basle Museum

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are really the lintel beams of the third doorway of Great Temple IV of Tikal, their number and size should be compared with the measurements which I shall give here. After deducting about 50 cm. at each end for the plain parts let into the wall, which were burnt or cut away, the visible, disengaged part of the beams would be 194 cm. in length, equalling the width of the doorway. It should be noted that the backs of the beams have also been cut away. The total breadth of the carving (comprising seven or eight beams) ought to correspond to the thickness of the wall, which is 237 cm. From this about 8 cm. should be deducted at each edge of the wall making the actual breadth of the carving 221 cm. (inasmuch as these ancient builders never pushed forward the lintel beams flush with the stuccoed surface of the wall, but always withdrew them from 5 to 10 cm. from the edge).

If the carving consisted of eight beams, the average breadth of each one would be about $27\frac{1}{2}$ cm. If the carving consisted of seven beams then each beam would average $31\frac{1}{2}$ cm., deducting 1 cm. at the joining in each case.

Should the measurements of the third doorway not coincide at all with the Bernoulli beams, it would not seem superfluous to take measurements also of the six beams of the second doorway. In this latter case the disengaged portion of the beams is 212 cm. in length. The thickness of the partition wall between the first and second chambers is 231 cm. Deducting 2×8 cm. (for the reasons given above) would leave 215 cm. for the breadth of the carving, giving an average breadth of 36 cm. to each of the six beams.

The Indians, by the way, when they pulled out the carved beams from the temples of Tikal, at the instance of the art connoisseurs, adopted the reprehensible method of burning off both ends, in order to save their machetes. As this process is a rather slow one, they frequently leave the beam burning while they go to their meals or drink their *potsol*, and are quite undisturbed if a pair of sacerdotal feet, the plume of a helmet, or some interesting hieroglyphs are consumed during their absence. (The half-charred beam which I pulled out from under a heap of débris in Great Temple II is an incontrovertible proof of my assertion.) These people do not know the use of saws, and it is very difficult to cut the exceedingly hard tsapotl wood with a machete. But since these beams with the ends burned off and the backs cut away are still very heavy to carry, and also because the Indians frequently see very little of the large sums expended for such work, they generally end by leaving one or two beams in the temple or throwing them away on the road, as the Indians themselves have very complaisantly told me! After all that has been said here it would seem advisable to examine the Bernoulli beams in the Museum of Basle and find out whether any of the important parts have been burnt away at the ends, whether the carving is intact as to breadth, that is, whether any of the beams are missing. If everything is as it should be, it must be admitted that Dr. Bernoulli was extraordinarily fortunate in his undertaking.

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It is well known that Dr. Bernoulli never saw Europe again, but died on his homeward journey in San Francisco, California, in 1878.

It must always be difficult for a European naturalist to determine an exotic tree merely by a specimen of its wood. It is absolutely necessary that he should examine the leaves, blossoms and fruit. I will therefore state once more that all the beams and most of the logs used in the structures of Tikal came from the Chictsapotl tree (*Achras Zapota* Linnaeus), which occurs so frequently in Central American forests. It is the tree which through a V-shaped incision yields the familiar chewing gum, called *el chicle*. The Aztec name for this gum is *tsictli*, pl. *tsictin*. It was probably also pronounced *tšictli*, *tšictin*, whence the Spanish *chictli*, *chictin* is derived, and from the latter no doubt the form *chicle*.

The older writers call the tree chictzapotl and xicontzapotl, pronounced tšictsapotl and sicontšapotl. *Xicotl*, *xicomé* (šicotl, šicomé) is the name of a large species of bee, whose product is called *xico-cuitlatl*, *i. e.*, secretion of bees, wax. Thus *xicon-tsapotl* was formed from the plural *xicom*, with a change from *m* to *n*, and a reference not exactly to bees or wasps but to the sticky, gummy substance which is yielded by the tree in question. It is pure white when fresh, and is contained in a small quantity in the brown peel of the delicious, round fruit, so great a favorite with men and monkeys. Also that little mammal of social proclivities, the *Nasua socialis*, called *pitsotl* by the Aztecs, and, strange to say, *chīc* (tšīc) by the Mayas, noisily squealing, searches eagerly for the juicy fruit, for which reason the natives very generally imagine the name *chicozapote* to mean *zapote del chīc* (or Masua socialis).

After cutting away the trees as far as the southeast corner of the lofty terrace upon which rises the pyramid of Great Temple IV, I was able to take a diagonal view of the temple, with a somewhat forced perspective, it is true, for the farther we descended the slope of the terrace elevation, the less favorable became the point of view (Plate 5).

The smooth walls of the temple rise from a simple base. The frieze has a slight inward pitch and shows five large ornaments on the east side, one over the doorway and one at each corner (turning, as usual, so as to include the adjoining end wall) and one in each space between the middle and the corner. The fundamental idea of each ornament is a fantastic head. Receding some distance from the edge of the roof-terrace the lofty roof-comb rises in three sections, the highest one having already fallen down in ruins. The east wall of the roof-comb has figures and scroll-work on an enormous scale. It is possible that the central part of the structure below was covered by a gigantic face.

The measurements of Great Temple IV as to height were estimated as follows: — Height of pyramid from the lower terrace to the platform of the truncation (including the base 2½ m. high), 45 metres. From the platform

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to the highest (restored) pinnacle of the roof-comb (including the base 2 metres high in front), is *24.7* metres. Making the total height from the lower terrace to the (restored) pinnacle of the roof-comb *69.7* m.

From the lofty platform of the pyramid of Great Temple IV there is a magnificent view toward the east across the boundless sea of forest trees. High above it rise Great Temples III and II, presenting a rear view, while Great Temple I is seen from in front. But however far the eye may travel in the direction of Belice, nowhere is a watercourse or the surface of a lake to be seen. What hidden treasures may not the forests east of Tikal reveal to us? Meanwhile the veil of mystery, which enveloped Naranjo, has been successfully lifted.

I examined the region to the west, the south and the north of Great Temple IV, but found no more ruins.

The Northern Part of the City, Beyond the Long Line of the North Ravine. Scanning the northern horizon from the platform of Great Temple I, a high wooded knoll can be discerned opposite its north side and lying beyond the north ravine. In 1895 I entertained the idea that a group of ruins must be hidden there, and on my return to this place in 1904 I determined to explore thoroughly the whole strip of country lying to the north. I, therefore, climbed down into the ravine back of the northern group of temples — "the less northern acropolis" — and came up again by the opposite slopes. We found only unimportant mounds of débris on the way, and finally came to an eminence levelled off at the top to form an oblong rectangle. Upon this natural, but regularly graded and shaped platform, two ruined temples of the type peculiar to Tikal, stand opposite each other. Each has the usual pyramidal substructure. The temple on the east end of the terrace turns its façade to the west and has a flight of stairs on the west side of its pyramid. The temple on the west end of the terrace faces east and the stairway is on the east side of the pyramid.

In front of the east temple, that is on its west side, three large thick stelae stand in a row, each with its circular altar before it. The middle one has a fourth stela placed in front of it with a circular altar in the usual position. All these stelae are without sculpture and are very much cracked and entwined by the roots of gigantic kopó trees. The west temple has no stela in front of its east side. Adjoining the north side of the substructure of this temple is a large, low, limestone rock, which the ancient builders were evidently unable to quarry wholly away. On the north side of the terrace is a little rectangular court enclosed by low masses of débris and having an entrance on the east. These masses of débris are doubtless the remains of a series of small chambers opening on the court. In the centre of the little court stands a large, thick stela, $2\frac{1}{2}$ metres of which show above the ground, while at least one metre is doubtless sunk deep in the soil. The stela is

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105 cm. broad by 55 cm. thick. Close before it is a large circular altar 164 cm. in diameter. Altar and stela are plain on both sides. A young kopó tree holds the stela in its grasp. The south face of the stela turns exactly to the south of the magnetic needle; in other words, the south face of the stela is placed exactly at right angles with a line drawn from the magnetic north to the magnetic south.

In several instances we observed in Tikal that façades faced exactly in accordance with the magnetic needle, while in other instances there was a deviation of 5° to 10° in different directions. The southern edge of the terrace is occupied by a long mound of débris, doubtless the remains of a structure containing a double row of chambers.

In the rear of the solitary stela with the large circular altar, the north side of the terrace has a very long downward slope. The territory to the north of it was diligently searched but to no avail, as the ruins plainly end at this point, while in a westerly and easterly direction we found architectural remains of imposing dimensions.

Proceeding first in a westerly direction we come to an oblong mass of ruins. This was once a two-storied edifice with a certain projecting addition on the east side; not far from this structure, still keeping to the west, rises a ruined two-storied edifice of considerable size still giving evidence of the original plan of construction. Upon a massive substructure rises the first story with, presumably, three chambers in front each with a corresponding chamber in the rear; otherwise we must assume that the back part of the structure was a solid mass of masonry. The second story was centrally placed with reference to the whole structure, receding some distance from the edge of the roof terrace, and seems to have consisted of but one large apartment, which is still partially preserved, and the walls and vaulted ceiling of which show stuccoing of exceedingly neat and smooth workmanship. The façade of this structure faces the east. At the back it is supported by strong, almost perpendicular retaining walls and faces a deep ravine which runs transversely and is doubtless a branch of the great north ravine. The plaza in front of the east side of the edifice is bounded north and south by a long mound of ruins.

Leaving the terrace of the temples and turning east, our way leads past some unimportant ruins to a group of four sepulchral pyramids. That is, the pyramids rise in steps and have stairways on all four sides leading to the platform on top, which has no stone temple of any kind.

The first pyramid (approaching from the west) has no stela or circular altar belonging to it, but has instead a little court to the north which seems to be in some way connected with it. This court is surrounded by a rectangular wall with an entrance on the south and is the third of its kind found in Tikal. The perfectly plain walls of this court are built of smooth, hewn blocks of stone, and are for the most part well preserved. On the outside

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this wall is about 8 m. broad and 13½ m. long, and in the middle of the court formed by it stands a large circular altar, which is ornamented with bas-reliefs on the upper surface, and on the cylindrical surface of the sides. The designs on the top are very much impaired by the rains, as can be imagined, while those on the cylindrical sides are better preserved being half covered up with earth. I designated this solitary circular altar No. VI. No vestige of a stela was found near this altar.

To the east of the second pyramid and near it, but on a somewhat higher plane, is the third pyramid, which has no stela on any side. The fourth pyramid rises a little further to the east, but on the left hand side, as we are moving. Eight stelae, each with its circular altar, stand side by side in a row before the west side of this pyramid. On the line of the architectural centre, a little in advance of the others, stands a ninth stela, also with its circular altar. All these nine stelae and their altars are perfectly plain.

Proceeding in a southerly direction from Sepulchral Pyramid 4, we found the area, on which the pyramids stand, bounded by a long mass of débris with no remnants of masonry walls projecting from it.

Behind this ruined structure a slope leads down to a ravine, doubtless a branch of the great north ravine. Crossing the ravine, and climbing the opposite slope, the explorer comes to the rear of the Great Palace of Twenty Chambers, which forms the northern boundary of a square enclosed on all four sides by large structures.

The Palace of Twenty Chambers (Plan, Fig. 7). This palace is 66 m. in length and rises on a massive substructure on the side fronting the square, while at the back, toward the ravine, it is supported by high retaining walls. The middle part consists of double rows of chambers, that is, a row of five front chambers each with a corresponding chamber in the rear. But it should be noted that the central front chamber and the one in its rear each has a small lateral chamber opening into it on the right and on the left. Each of these has a very small window (air-hole) in the outside wall as well as in the longitudinal partition wall.

These chambers are each 720 cm. in length excepting the small lateral rooms which are only 340 cm. long. Each chamber is 227 cm. wide. The height of the front apartments from the floor to the truncation of the wedge-shaped vaulting is 445 cm. The middle part of the palace finishes at each end in a transversely placed chamber with two small rear chambers. At each end of the south façade the projecting transverse chamber forms an angle into which a little vestibule is built, with a small doorway leading into the adjoining rear chamber.

The façade is almost entirely in ruins and exactly faces the south of the magnetic needle. As it so often happens in Tikal that the buildings face

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exactly in accordance with the magnetic needle (of our own epoch), it is difficult to determine whether this circumstance is owing to accident or design. The frieze on the projection of the left wing (on the observer's right) has a solitary remnant of ornamentation; it is a grotesquely conventionalized face surrounded by scroll-work.

Opposite the Palace of Twenty Chambers, toward the south, is another palace of equal length, but of greater breadth and height, which once consisted of two stories. This palace had façades and chambers on the north looking on the great court as well as on the south facing a ravine. Unfor-

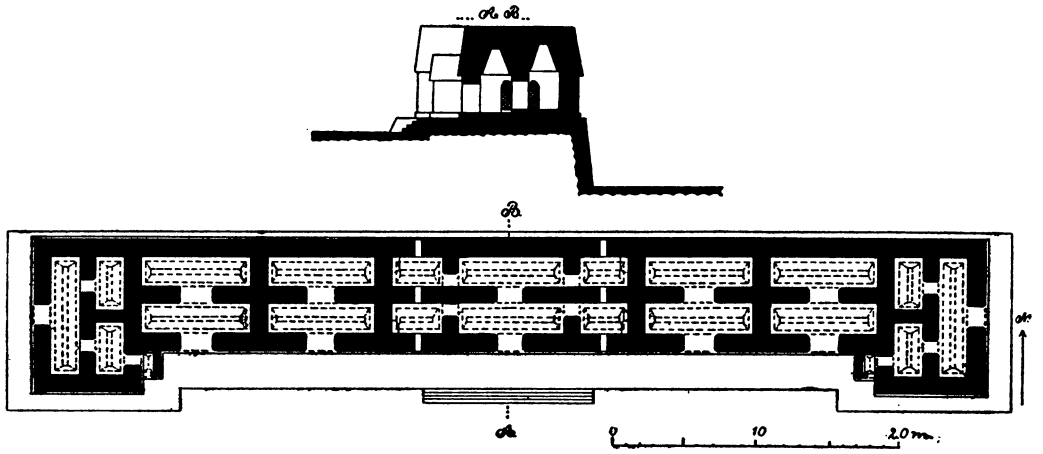

FIG. 7. — TIKAL: Plan and Section of Palace with Twenty Chambers.

tunately this palace is in such a state of demolition that I found it impossible to draw a reliable plan of it. It seemed to me that this south palace (with reference to the court) had chambers on the north side of the first story, but I could not determine whether in a single or double row. Of the chambers on the south side (facing the ravine) several are still preserved. They are probably rear chambers, while the front ones are totally in ruins. On the wall in one of the former I found a rude incised drawing unmistakably of Indian origin, but done long after the evacuation of the city. The second story, which recedes from the edge of the terrace roof, both on the north and south sides, plainly had a double row of apartments. The court is bounded on the east by the ruins of a structure consisting, I think, of five chambers in a row. Its façade faces the west.

The west side of the court is closed in by a now ruined structure of presumably five chambers raised above the common level by its high and massive foundation. The façade undoubtedly faced east.

Neither stela nor altar was found in the spacious court, although a thorough search was made.

To find this group of structures it is necessary to descend the north slope of the Great Terrace without buildings to the east of Great Temple I. By proceeding northward from that point the group is reached.

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Let us now take as our point of departure Great Temple V and the lesser Acropolis on the west, and keep a westerly direction on the farther side of the south ravine.

The best way to reach Great Temple V is to enter the south ravine at its mouth near the south wing of the Great Palace of the Grooved Walls, and leaving the lofty palaces of the upper city on the right, to proceed to the architectural centre line of the Great Temple. Arrived at that point, turn to the left, ascend three terraces (a large one, a small one and finally another large one), and the great stairway is reached on the north side of the pyramid on which Great Temple V stands.

Great Temple V[1] (Plate 6). The façade of this stupendous structure almost exactly faces the magnetic north. The base of its pyramid is also a step running around the four sides. The offsets of the pyramid — probably nine in number — are so completely broken down, that their shape can no longer be determined, not even after examining all four sides. I assume that the steps of this pyramid showed the peculiar recessing at the corners, and that the top step had smooth sides, while the eight lower ones showed the same horizontal divisions as those of Great Temples I, III and IV. The stairway, measured at the bottom, is 20 m. in breadth, but somewhat narrower at the top. The walls on either side of the stairs are well preserved and project considerably at the base. Nevertheless the stairway is so steep that it is advisable to have a rope fastened to a tree trunk above to use as an aid in climbing. The length of the pyramid measured at the first step on the north side (not at the base) is *55* m. The breadth, no doubt, is considerably less.

Above, on the platform, the temple proper rises on a plain, slightly projecting substructure $1\frac{1}{4}$ m. high in front, and 70 cm. higher at the back. In the centre of the north side there are, as usual, a few steps leading up over the substructure to the doorway of the first and only temple chamber, which is very small.

The whole façade measured from corner to corner is 22 m. 68 cm. Breadth, measured on the line of the architectural centre, is 790 cm. The doorway is 218 cm. wide and 228 cm. high and is spanned by nine round tsapotl beams. The temple chamber is 4 m. in length, only 82 cm. in breadth and 480 cm. in height.

Some treasure seeker, by the way, has made an ugly break in the enormously thick masonry of the longitudinal rear wall of the temple chamber. The opening reaches to a considerable height and the débris fills up and disfigures the entire apartment. Breaks of this kind in the structures of Tikal are ascribed to "Colonel Mendez" who has left the reputation

[1] Plan not received. See No. 2, Figs. 33, 34, for plan and cross section. — EDITOR.

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behind him of a ruthless treasure seeker. It seems that this "Colonel" instead of keeping in order the fugitives settled near the aguada, shamefully employed them to perform these acts of desecration, and doubtless brought more men with him from San José and San Andres for the same purpose.

The diagonal view of the entire construction, which is here presented to the reader (Plate 6), was taken from an elevation to the west of it. The picture shows the considerable projection of the stairway and the almost complete demolition of the nine offsets. The frieze of the temple is high and has a slight inward pitch, and shows faint traces of five large fantastic ornamentations, the central motif of each being a gigantic face.

Above the roof-terrace rises the stupendous tower-like roof-comb with backward slope still plainly showing three of its original sections. There are reasons for thinking that a fourth or even a fifth section with window perforations, now broken down, surmounted the whole. The façade (the north side) of the entire roof-comb displays the most elaborate ornamentation imaginable.

The view of the upper city opposite, enjoyed by the ancient priests from the platform of this temple of the palaces, must have been one of great architectural splendor.

The height of the pyramid from the levelling off (considered as the third terrace from the bottom of the ravine) to the platform of the truncation (including the 2 m. of the base) was estimated at 35½ m. From the platform (inclusive of the substructure of the temple) to the present top of the roof-comb the height was calculated at *21.8* m. The total height, then, of the structure from the levelling off (the third terrace) to the highest point of the roof-comb would amount to *57.3* m. To which can be mentally added 8 + 4 + 8 m. for the three lowest terraces on the north side.

As it may interest some readers to compare the height of the five Great Temples, I give them as follows: —

Great Temple I. Façade facing west. Height of pyramid, 29½ m. Height of temple, *17.7* m. Total, *47.2* m.

Great Temple II. Façade facing east. Height of pyramid, 21 m. Height of temple, 22½ m. Total, 43½ m.

Great Temple III. Façade facing east. Height of pyramid, 32½ m. Height of temple, *21.7* m. Total, *54.2* m.

Great Temple IV. Façade facing east. Height of pyramid, 45 m. Height of temple, *24.7* m. Total, *69.7* m.

Great Temple V. Façade facing north. Height of pyramid, 35½ m. Height of temple, *21.8* m. Total, *57.3* m.

Quite near the foot of the east side of Great Temple V stands a pretty little palace on a massive substructure with a stairway on the east. The

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palace proper has but two chambers, with graceful stepped vaultings. The now broken down façade faced the east.

The frieze, still preserved at the back of the edifice, has a slight inward pitch and is quite plain. But it seems probable that over the two doorways on the east and at the two corners on the same side, the frieze had some kind of ornamentation.

The Lesser Arocoplis, West of Great Temple V. To the west opposite Great Temple V rises a hill, the top of which has been levelled off, thus forming a square terrace. There are buildings on all four sides, while in the middle (in the court) a small three-chambered temple surmounts a pyramidal substructure. The eastern slope of the hill facing the west side of Great Temple V still shows terraces with remains of small structures. Climbing up this slope brings one to the eastern edge of the upper terrace where, besides a small edifice with only one chamber, stands a larger one with a double row of chambers, three in front, with three behind, and one placed transversely at the southern end.

The southern end of this seven-chambered structure adjoins the south structure which borders the south side of the court.

This south structure has ten chambers, two transversely placed at the juncture of the two buildings, and four running longitudinally with entrances on the north and, corresponding with these, four in the rear with entrances on the south.

The west side of the court is occupied by the west structure standing on a higher level and adjoining the ten-chambered structure. This west building probably had a double row of transversely placed chambers at each end and a fourfold row of three each running the length of the middle part, with entrances on the east, and on the west. There was, in addition, a small chamber in the southwest corner of the court upon which the doorway opened. Accordingly this structure must have had 28 chambers. It is not unlikely that some kind of a superstructure was supported by the very thick partition walls (the third and fourth counting from the court).

The north side of the court is closed in by the north structure, which has a double row of longitudinal chambers of different size with doorways on the south and north, two transverse chambers at the west end and another inserted between the longitudinal apartments near the east end. The little pyramid in the court has a stairway on its east side leading up to the platform. The temple upon it is partially in ruins, but still shows that it had the typical threefold division. (My description of this lesser or third Acropolis can be comprehended clearly only by consulting the plan of the city.)

Descending by the western slope of this little citadel, a lower terrace is reached, facing west, which, with a certain elongation, forms the entire east

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side of an oblong square closed in on all sides by small palaces and temples. We will begin the description of these buildings with the row on the east, where we came out on climbing down the western slope of the hill.

At the north end of the terrace is a small heap of débris. Then follows a row of seven temples, differing in size but all of the same fundamental type, as can be seen on the plan of the city. The façades of all face west. All have a stairway running up over the projecting substructure leading from the level of the square to the projecting platform. The platforms of the first five temples are all merged at the back in the terrace, while the platforms of the sixth and seventh are independent. Before the stairway of the central temple, which will be specially described, stands a large, thick, but perfectly plain stela with its circular altar.

The Central Temple of the Row of Seven.[1] This fourth temple is the largest of the seven. The front chamber is the longest and, in fact, the only one, for, instead of the second chamber contracted at both ends, and the third one with the ends again extended, a solid mass of masonry was constructed to support the very massive roof-comb. The façade of the temple (of the front chamber) is unfortunately all broken down, which is much to be regretted, since its frieze must have been tastefully ornamented. I therefore took a view of the rear only (east side) of the structure, which also shows a little of the southern end of the back section (what otherwise would be the third chamber). (Plate 8, Fig. 2.) The photograph shows how, even in the construction of the lesser temples, the rule was followed of letting a central portion of the rear wall project a little way; in this case 25 cm. The measurements of this rear wall were, in length, $277 + 625 + 277 = 1179$ cm. The length of the west façade is about 14 m., since, as already stated, the first chamber is always a little longer than the third. A shallow niche can be seen in the projecting central part, and each end of the back section has a similar niche. The frieze between the upper and lower cornice shows interesting ornamentation — in the centre of the middle piece a large grotesquely conventionalized face-mask (*un mascaron*) with large circular ornaments on either side, which may be regarded as the ear-ornaments of the face between. The inverted hook sign is deeply incised on the plane of the circles. The frieze on the retreating portions of the rear wall shows conventionalized cross-bones in the shape of two intersecting Vs. The frieze on the end wall visible on the photograph also has a grotesquely conventionalized mask.

The picture distinctly shows that the rear and side walls of the roof-comb were plain. The undoubtedly very rich figure-carving on the west side is now completely destroyed. It is possible that the roof-comb of these lesser temples consisted of a single ponderous body; on the other hand, the

[1] Plan not received. See No. 2, Fig. 37. — EDITOR.

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solid mass of masonry in place of the second and third chambers seems to point to a roof-comb in two or three sections diminishing in size toward the top.

The south side of the Square of the Seven Temples is occupied by three palaces whose façades and doorways faced north (the square) and south (a *planada* on a lower level).

I was able to make ground-plans of the first and the middle palace, but the third is wholly destroyed. The second palace is the longest. All the palaces have massive substructures forming terraces on all sides, and naturally a deeper descent on the south side than on the north.

The First of the Three Palaces on the South Side of the Square of the Seven Temples.[1] On the north side toward the square this structure has a single gallery 17 m. 54 cm. in length. Three doorways on the north lead into this gallery, but the north façade is unfortunately all broken down. In the middle of the partition wall a doorway, spanned by twelve round tsapotl beams, leads to the middle one of the three chambers on the south which have each a doorway on the south side.

On the south, east and west sides it is clear that the frieze, which had a slight inward pitch, was quite plain. The exterior length of the structure was 20 m. 34 cm. The exterior breadth, 7 m. 63 cm.

The Middle Palace on the South Side of the Square of the Seven Temples.[2] This beautiful palace, constructed with extraordinary exactness and clearness of outline, consisted originally of a single gallery 27 m. 83 cm. in length, by 205 cm. in breadth, which was later subdivided into three chambers. The height of the gallery (or of the chambers resulting from it) is 465 cm. from the floor to the truncation of the vaulting. At its west end (or in the chamber at that end) there is a double bench, or pair of steps 58 and 65 cm. in height. Three doorways on the north side, and three on the south side lead to the gallery, all being spanned by tsapotl beams. These round beams were always cut from the heart of the tree (*del corazon del árbol*) and are hard as iron and almost indestructible. The gallery has a beautiful three-stepped, vaulted ceiling which may well have been the finest in Tikal.

Unfortunately this long, splendid gallery was at some later date divided into apartments, and for that purpose two partition walls 182 cm. thick were inserted, each with a doorway, and the two ends of the gallery were reinforce by walls 178 cm. in thickness. These insertions, it must be admitted, were executed with great care. For at the top they were not made to intersect vertically the original stepped vaulting, but the outline of each angle formed by the steps was conscientiously followed.

Wherever a treasure seeker, sniffing about for booty in such a ruin, dis-

[1] Plan not received. See No. 2, Fig. 38. — EDITOR.
[2] Plan not received. See No. 2, Fig. 39. — EDITOR.

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covers a thick mass of masonry, a feeling of curiosity and greed is at once aroused within him, for people of his ilk have not the remotest idea of an architectural necessity. In this spirit some ruthless treasure seeker made disfiguring breaches in the thick mass of later inserted masonry. Could it have been the same individual who disfigured Great Temple V?

Setting up my photographic apparatus at the east end of the gallery, I succeeded in taking a very good view, which even shows the partitioning off into three apartments (Plate 11, Fig. 2). The character of the step-shaped vaulting can be recognized on the picture, also the round tsapotl beams, and also, alas! the disfigurement caused by barbaric intruders.

The exterior length of the structure is 30 m. 77 cm. Breadth, 499 cm. The frieze had a slight inward pitch and over every doorway and at each corner a large grotesque face with lateral scroll-work. These interesting frieze decorations are no longer in a condition to be successfully photographed, but are still a sight worth the traveller's trouble.

Of the third palace I can only say that its proportions were similar to those of the first palace, but its divisions into chambers can no longer be determined.

The north side of the square is occupied by two small heaps of débris and a terrace construction of considerable size, being a rather broad rectangular terrace with no buildings upon it. On the observer's right (toward the east) it has an extension of diminished breadth, on the east end of which stood a small temple with stairway and façade facing the square on the south. This ruined little temple still shows traces of the typical three-fold division. At the west end of the broader part of the terrace a sustaining wall, reinforced by buttresses, is still in fairly good condition.

The west side of the Square of the Seven Temples is occupied by a row of three temples and a terrace-construction. The edifices of this row, which are somewhat larger than those of the row of seven, turned their façades and stairways toward the west, toward a square on a somewhat lower level, which we will call the Square of the Five Temples, hence their backs were turned to the Square of the Seven Temples. All their façades are broken down.

We will begin the description of this row of structures with the first temple on the right (on the north) which is larger than the second, which in its turn is larger then the third. Each of the three temples stands upon a substructure, which forms a platform and has a stairway on the west side. All the temples show the typical threefold division, but in the third a solid mass of masonry takes the place of the third chamber. The first temple is the most spacious and most carefully carried out as to details. A narrow terrace separates the first temple from the second, which the third closely adjoins. Adjoining the third temple is an oblong terrace, one half of which

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seems quite devoid of architectural remains while the other half has a pile of ruins which is highest in the middle.

The piece of terrace without buildings is adjoined at right angles by another terrace-construction having a projection at its northern end and no traces of buildings on top. A little further to the west, but standing within the square, is a fourth temple with the usual substructure and with façade and stairway facing west, and having the typical threefold division of the inside space. On the ground to the west of it are four piles of stones in a row (probably ruins of very small monuments), the two smallest in the middle and larger ones at either end. Near the most northerly of these piles begins a long drawn out mass of ruins shaped thus ⊣⌐, probably the remains of a totally destroyed row of apartments, embracing, as it were, on the south and west the largest sepulchral pyramid of Tikal, having stairways on all four sides and apparently no temple on the truncated platform.

The pyramid is about 20 m. in height. I could not determine the number of its offsets since their outline had become indistinct.

The space surrounding the sepulchral pyramid is closed in on the north by a fifth temple, with façade and stairway facing south (facing the pyramid). This temple has, as usual, the triple division; the third chamber, however, being replaced by a solid mass of masonry, as in the case of the third temple.

Adjoining the northeast corner of this temple is a small ruined structure having a ground plan shaped thus ⌐, of which only a piece of the solid west wall remains.

To the south and west of the Square of the Five Temples and the great Sepulchral Pyramid there are no more ruins but only level country with quarries here and there.

Proceeding a few steps in a northerly direction from the ⌐-shaped ruins with the piece of west wall, and then crossing through a shallow ravine, the explorer comes out at the narrow, southern end of the Great Palace with the beautiful stepped vaultings in the east chamber of the first story.

This brings to a close what may be considered a very complete architectural description of Tikal, which will offer no difficulties if the general plan of the city and the detailed plans are carefully consulted. It is necessary to imagine that in ancient times the monumental sections of the city were surrounded by thousands of houses and huts built of perishable material, and covered with roofs of palm leaves. Furthermore, that for the support of a population numbering, no doubt, hundreds of thousands, the surrounding forests had given way to fruitful maize plantations, for only the cultivation of maize on a very large scale could have nourished so great a population. No doubt there were also reservoirs of water established here and there, which are not now to be seen.

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The Incised Drawings in the Temples and Palaces of Tikal (Figs. 8 to 17). The walls of the chambers in the principal structures of Tikal were generally covered with the finest white stucco; upon this the occupants skilled in writing and drawing made incised drawings, presumably with a pointed flint or obsidian knife such as was commonly carried at that period.

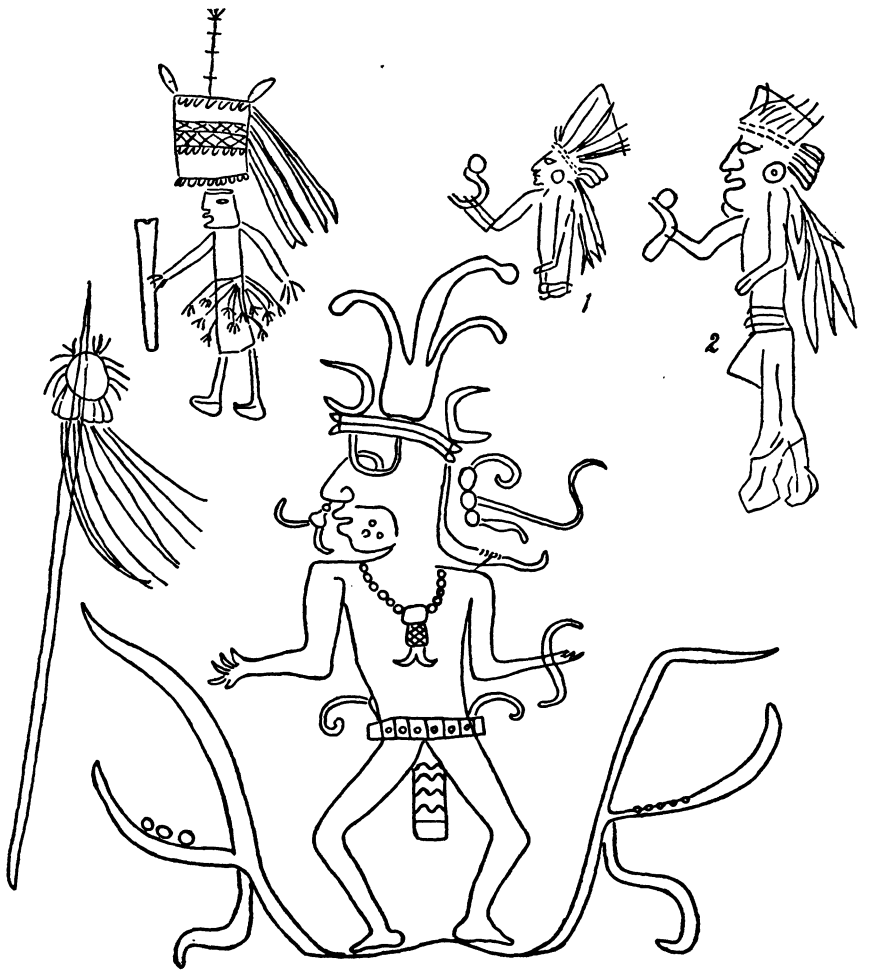

FIG. 8. — TIKAL: Incised drawings on walls of Temple II. 1 and 2 are together; the others are separate.

In the course of years a new coating of stucco was given to walls which had become soiled or injured, and whatever incisions they held were naturally covered. Therefore all the incised drawings copied by me must be regarded as having been made upon the very last coating of stucco.

These later coatings of stucco are, to be sure, no thicker than from 1 to 2 m., while the basis, that is, the coating of plaster on the walls and vaultings, is from 1 to 2 or more cm. in thickness. The stucco is so little inclined to scale off that it is impossible to get at any drawings on the under layer.

The process of tracing these incisions, which are for the most part very indistinct, is greatly aided by rubbing the surface of the incised walls with

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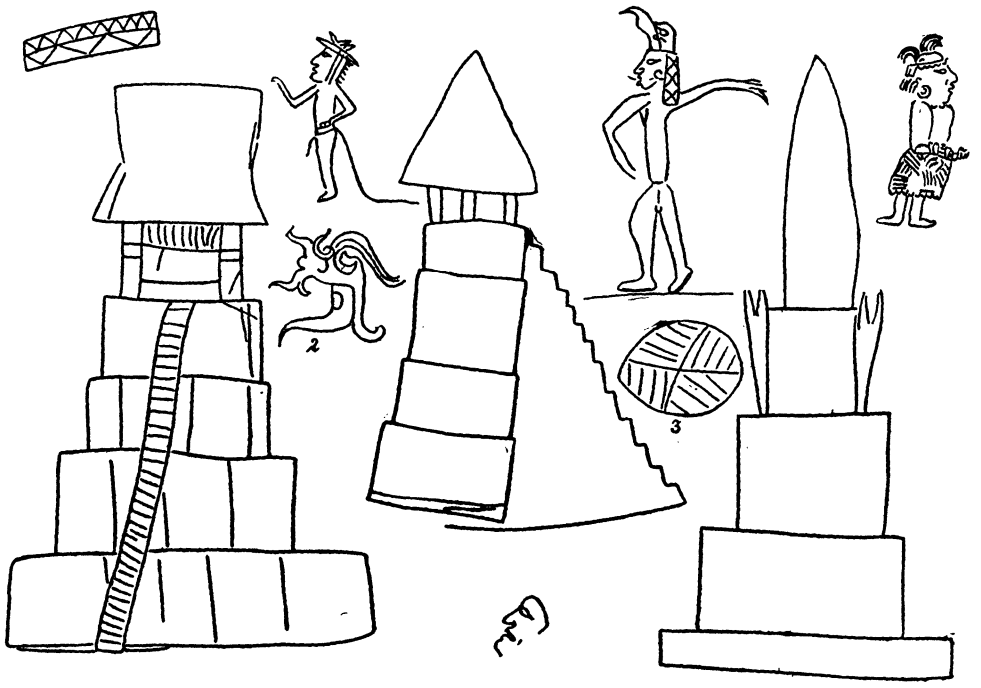

FIG. 9. — TIKAL: Incised drawings on walls of Temple II. All separate.

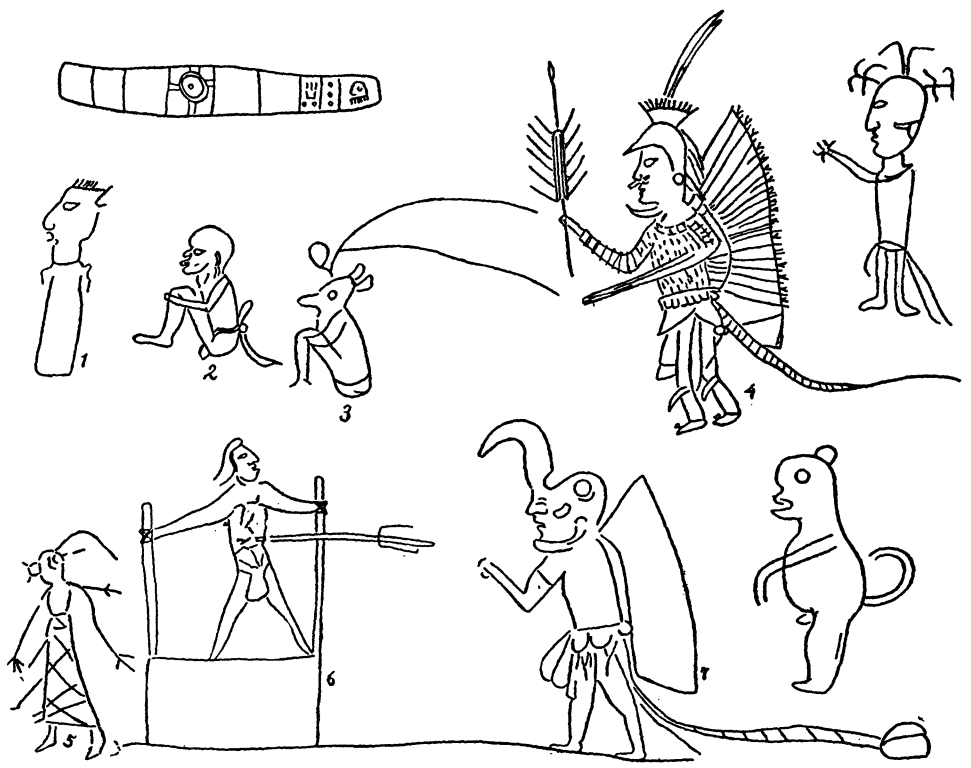

FIG. 10. — TIKAL: Incised drawings on walls of Temple II. 1–4 orm one group; 5–7 form another group.

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dry, fine, black earth (or anything else available). This brings out the drawings very clearly. Sometimes it is necessary to run over the lines with a soft pencil. Rubbing in moist black color is generally unfavorable to good results. The best time to search for incisions is during the dry season, for the moist sticky moss, which covers many walls, is then quite dry and crumbly and easily brushed off.

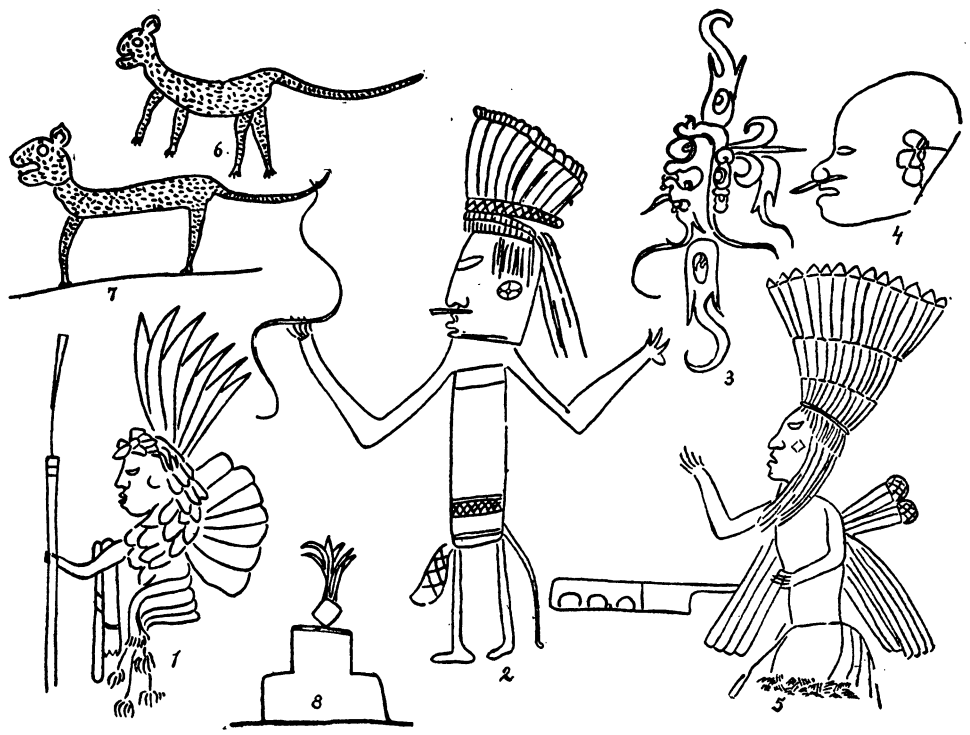

FIG. 11. — TIKAL: 1–5, incised drawings on walls of Temple II. 6–8, from walls of Palace of Two Stories opposite Temple V. All separate.

Since the incised drawings in the ten figures are perfectly clear and distinct, a description of them seems superfluous, and I shall confine myself merely to a few remarks.

Apparently the greatest variety and license regarding personal adornment prevailed in Tikal, every one carrying out his individual taste in such matters. Representations of women are scarcely ever met with on these smooth walls, because, no doubt, priests and scribes were chiefly the inmates of these monumental structures in which they pursued their calling. All mirthful or amorous allusions were precluded among men leading lives of serious meditation. Among these specimens of drawing, however, made during the leisure hours of the occupants of these edifices, there is much which cannot I think be found carved in stone but which might be compared with Maya or even with Aztec picture-writing. For example, the three drawings from the palace in which I lived (Figs. 11–17), representing priests (or deities?)

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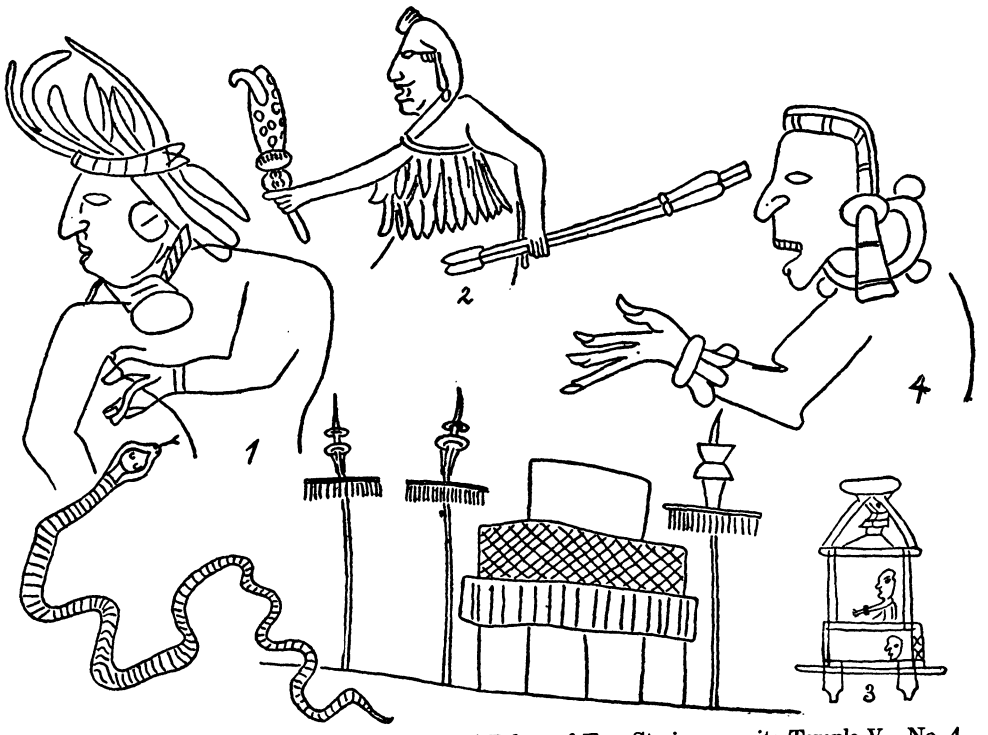

FIG. 12. — TIKAL: Incised drawings on walls of Palace of Two Stories opposite Temple V. No. 4 is from walls of Palace in rear of Temple III.

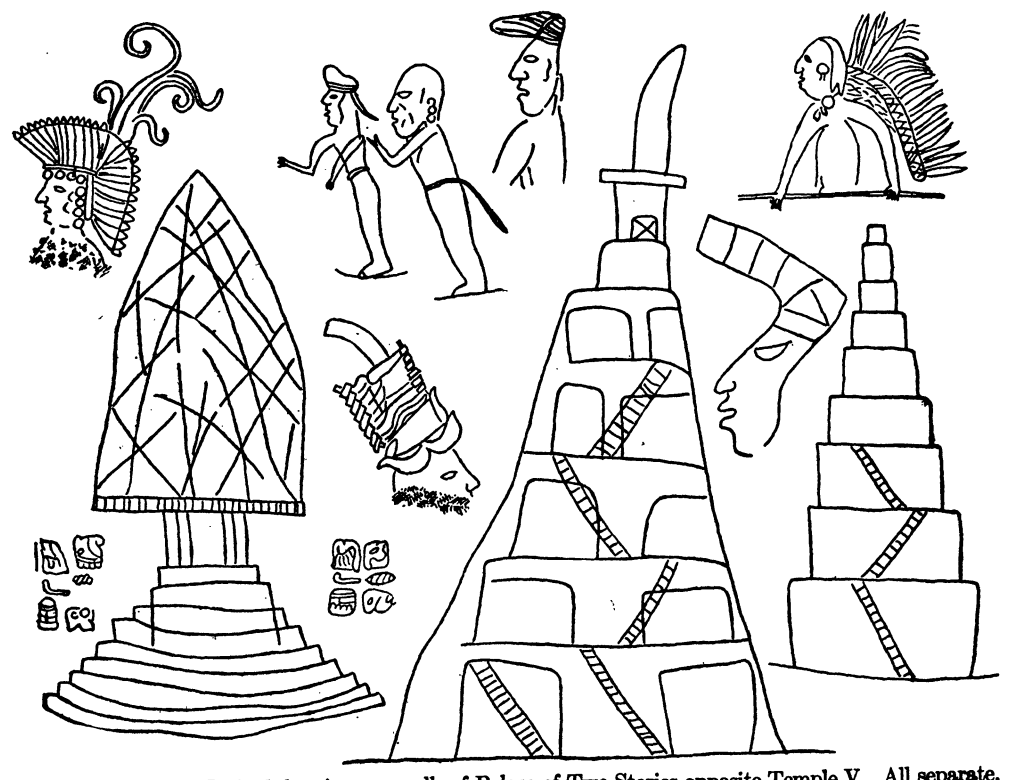

FIG. 13. — TIKAL: Incised drawings on walls of Palace of Two Stories opposite Temple V. All separate.

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are strangely suggestive of similar figures in the Maya Codex of Dresden pp. 25–28. The personages are standing erect, and are holding the ceremonial staff in the outstretched hand. Two have animal heads.

Involuntarily the question presents itself: where did the Dresden Codex originate? Might it not have come, if not actually from Tikal, still from some Maya city in the present Department of Peten, and have been sent as

FIG. 14. — TIKAL: Incised drawings on walls of Palace of Two Stories opposite Temple V. All separate.

a sample of Maya picture-writing to Europe? At any rate, it did not originate in any of the large cities in the northern part of the peninsula of Yucatan, like Uxmal, Mayapan, Kabahaucan, etc., and most certainly not in Chichen Itza.

The picture of an execution from Great Temple II of Tikal (Fig. 10, Nos. 5–7) also has a counterpart in the representation of a similar scene in the Codex Nuttall, p. 84. An executioner with savage mien, with the aid of a spear-thrower, is sending to the realms of death a criminal tied by his outspread arms to a stake. His wife is turning aside in horror and hastening

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away! It is, of course, not improbable that the "criminal" was not a criminal at all, and that human justice in those distant times and countries was quite as often at fault as it is with us. At any rate, the rudely sketched female figure seems to suggest an underlying sense of disapproval.

The Stelae and Circular Altars of Tikal. For the sake of greater clearness I will describe the sculptured stelae as an uninterrupted series. A repe-

FIG. 15. — TIKAL: Incised drawings on walls of Palace of Two Stories opposite Temple V. All separate.

tition of some of the remarks previously made in the general course of the description of the ruined city will, of course, be unavoidable.

In its wealth of stelae and circular altars Tikal is unequalled among all the known ruined cities. More than one hundred stelae can be found there and nearly every one with its own circular altar. But of these numerous stelae most of which were still in an upright position only a relatively small number had bas-reliefs on one, two, three, or on all four sides. My careful search resulted in finding only seventeen stelae with bas-reliefs, of which only three, owing to complete demolition, could be photographed. Of cir-

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cular altars only six showed bas-reliefs, and of these only one could be photographed, but that one is a choice specimen of Maya art.

It may be assumed as a matter of course that all these stelae, now plain, were at one time covered with a smooth coating of stucco upon which all kinds of figures and picture-writing had been executed in outline, or that,

FIG. 16.—TIKAL: 1–4, incised drawings on walls of Palace of Two Stories opposite Temple V. 5–9, on walls of Temple II.

at any rate, they had been covered with fiery red paint. The altars were also no doubt painted red.

The limestone used for the stelae and altars of Tikal is of a light yellow color and of a hard, fine grain. It can be broken into pieces and calcined, but unlike certain stelae of Yāxhá, for example, it is not turned into a heap of rubble by the action of the elements or by the impact of falling trees.

Stela 1 (Plate 12, North side; Plate 13, Figs. 1, 2, 3, West, South, and East sides). I consider this stela as having replaced No. 2, which was doubt-

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less broken in pieces during some public calamity and then set aside. Owing to their present imperfect condition and notwithstanding many deviations, the two stelae must be considered together in this description, since they supplement each other.

In 1895 I had already discovered this magnificent stela, then almost completely buried, and I sought in vain for the top, which had been struck off

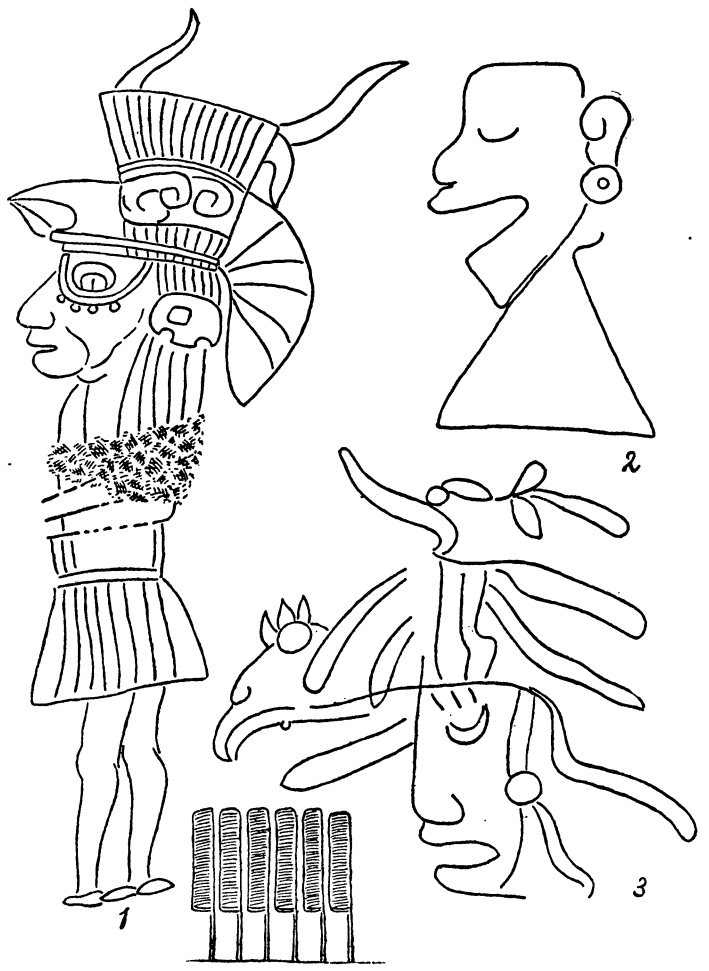

FIG. 17.—TIKAL. 1, incised drawings on wall of Palace of Two Stories opposite Temple V. 2, 3, on walls of Middle Palace formerly of one apartment.

by a falling tree and carried off, who knows by whom or whither. As the men I had with me at the time were so very unwilling to aid me, I had to give up all thought of excavating this stela. But the expedition being better organized on my return in 1904, I at once began the work of uncovering it. To enable me to photograph the stela on all four sides, it was necessary to clear away the débris for a space of 4 metres in all directions. Thus the missing fragment, if extant and hidden by débris, would necessarily have come to light together with the circular altar belonging to its south side.

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Instead, we came upon the upper half of a second stela lying deeply buried under débris, not far from the eastern narrow side-face of the first one. Consequently Stela 2 must have been broken up by the inhabitants of Tikal themselves and not by modern iconoclasts, nor by a falling tree, in which case the lower half would have been found near by.

Stela 1, as well as the fragment of Stela 2 preserved as a memento, stood before the stairway, close to the south side of the base, 4 m. high, of the structure, which contained a front chamber with three small ones behind it; that is, they stood upon the narrow space between that structure and the back of the pyramid of the third temple of the group on the north side of the principal square. The falling of the south façade of the structure just mentioned, covered the stelae with débris and thus preserved them from destruction.

The seclusion of the spot, on which these two stelae stood, makes it appear improbable that human sacrifice was ever performed before them, because the bloody ceremony would then have remained invisible to the public. That was also, no doubt, the reason why there was no circular altar placed before them. Nevertheless, these two magnificent stelae must have been of great importance to a select initiated few, and not to the populace, for they are unique specimens of their kind and may be regarded as the finest in Tikal. The present height of the stone from the very bottom to the highest point of the fracture is 175 cm. to which one metre at least should be mentally added for the missing portion. Breadth at the top, 64 cm. Thickness, 44 cm.

South Side together with the East and West Sides. Since there would not have been room on the comparatively narrow south side of the stela for the elaboration of the ceremonial bar and the other accessories, they were carried over upon the narrow side-faces by which means a total breadth (at the top) of 152 cm. was gained for the bas-relief as a whole. For the better comprehension of this combination, the three sides are shown upon one plate.

The symbolic glyph-base of the figure on the south side was almost wholly let into the cement pavement; therefore it must have been invisible even in ancient times, for it made its appearance only after we had cut away the hard, thick layers of cement. To the right of the observer a conventionalized head can be seen, of which the very deeply carved eye, the ear-disk with a little hole and the large upturned nose can be plainly distinguished. To the back of this head is joined a large conventionalized eye, and to this a square with rounded corners from behind which appear serpent-heads diagonally placed, all of which may be regarded as the ear-ornaments of the conventionalized composite head. The ancients were fond of these symbolical compositions, which are incomprehensible to us.

Standing upon the great glyph-base a personage of high rank is represented from the right side, the left foot a little advanced, the face turned

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to the left, while the chest with the arms holding the ceremonial bar is represented in front view.

It is probable that the main figure of the relief represents a priest of high rank, not an actual deity, while the other numerous representations of figures might be regarded as deities and mythological personages pertaining to the Maya heaven.

The very elaborate buskins show the soles, the little straps drawn between the toes, and attached to the front of each a head in profile placed upside down (seen by inverting the picture). From the top of the leggings proceeds an ornament curving outward, ornamented with feathers and ending in a small double head which may be regarded as either right side up or upside down.

The almost concealed loin-cloth composed of scales and bead-work is held at the waist by a magnificent girdle ornamented with St. Andrew's crosses. The fantastically conventionalized tiger-head resting on a roll with three pendants is doubtless meant to mark the centre of the girdle. The small half recumbent figure on the right hip also rests on a roll with triple pendants. The corresponding ornament on the left hip is of course invisible.

A long chain hangs down from the neck and curves to the right below the girdle. Within the curve is an expressive profile mask resting upon a serpent, and from this combination depends the ornamental flap with a heavy tassel. On the left side apparently below the belt is a large bowknot with a long pendant hanging obliquely, into which is carved a profile face with a ball below. To the ball is joined a head in profile with a roll and pendants under the chin. The whole may be regarded as the finishing ornament at the back of the belt.

The body above the hips is probably nude. The necklace, if there is one, and any other possible ornaments are concealed by the ceremonial bar held in a horizontal position. The handsomely elaborated cuffs at both wrists differ in form from those usually seen.

The face is in profile and has a crescent-shaped ear-ornament (of flint), from which proceeds elaborate ornamentation including a pendant of disks, which serves as the common ear-ornament of two half masks turned in opposite directions in such a manner that one serves as a support for the chin and the other for the back of the head.

The fracture runs obliquely across the forehead, and since the piece broken off has mysteriously disappeared, the fairly well preserved helmet on Stela 2 must furnish us with an approximate idea of the head-dress on No. 1. Presumably the helmet consisted of a great deity-mask with proboscis and certain elaborations at the back, surmounted by a symbolic composition. A plume of feathers hung down behind, the ends of which can still be seen in the upper left hand corner.

A mantle of feathers forms the background of the whole relief. It rises

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in flat arches from both shoulders of the Ahaucan and then turns the corner to cover the adjoining narrow side-faces, diminishing in width as it falls to spread out again near the ground in C-shaped curves. It is most richly ornamented with mythological figures and scroll-work and edged with a row ef beads and feathers.

The ceremonial bar displays great conventionalized open jaws at either end. In the jaw on the observer's left (turning the west corner) crouches the singular little figure of a god with the familiar proboscis and plainly showing the perforated ear-disk. The forehead is twisted into a mask looking backward. In his outstretched left hand the god holds a disk with four points (two of them invisible).

A serpent, rising in coils, rests on the lower mandible of the open jaw on this side and between its little jaws holds a head with a chin support and a pendant which again seems to develop into two grotesque faces.

At the bottom of the left side facing the C-shaped curve described above, is an open jaw holding a face in profile with closed eyes. Upon its visible left cheek is a small crescent and an S-shaped object is applied to the corner of the mouth. A round bead is attached to the nose or to the upper lip, and two wavy bands, which I cannot account for, issue from the mouth.

Behind the scroll-work proceeding from the open jaws rises a cylindrical shaft common to both the south and the west sides of the stela, and together with it on the west an ornamental post. An apelike manikin clasps the shaft with arms and legs, and turns his face toward another manikin developed from the scroll-work, with a second face in profile set above his own.

A central division is formed by a sacrificial knife projecting horizontally from the ornamental post, the point ending in a bent plus sign (swastica) to which is joined a convolution of scrolls enclosing a grotesque half-mask.

Coiling above the ornamental post, above the apelike manikin, a serpent can be seen with clearly defined heart-shaped tail and peculiarly formed head. While above the swastica another manikin develops from scrolls, who, with a second profile head set above his own, stares at the serpent.

The fringe of beard on the lower mandible of the open jaw forming this end of the ceremonial bar can be seen just above the serpent's head.

Turning now to the elaborated jaw of the ceremonial bar extending over the east side-face we see a manikin crouching in its curves and turning his *osumatli*-face backward. His uplifted right hand holds a kind of devil-mask with a curved object set with points attached to the chin.

Here too a coiling serpent rests on the end of the lower, bearded mandible and holds a half obliterated round face with a gracefully curved pendant in its open mouth.

The C-shaped end of the feather mantle, on this side of the stela as on

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the other, contains an open jaw elaboration holding a profile face with closed eye, the whole design facing the curved hem of the mantle. Behind this composition rises a cylindrical shaft with its parallel ornamental post marking the transition of the south face to the east side-face.

At its lower end the cylindrical shaft is clasped with arms and legs by a manikin with a fierce monkey face, apparently engaged in a lively conversation with the double-headed manikin opposite developed from the scrolls.

Here too there is a sacrificial knife above the double heads, projecting horizontally from the post and having a swastica at its point, to which is joined scroll-work encircling a half-mask.

Over the head of the fierce monkey-faced man a serpent twines about the cylindrical shaft, and at the upper end of the ornamental post, close under the beard-fringe of the open jaw at this point, can be seen a monkey-mask resting upon the ornamentation of the post (round beads with feather pendants), while opposite with questioning gaze is the head of a scroll-evolved manikin with the usual topping of a second profile head.

There were no vestiges of color found on this bas-relief, which had been executed by a master hand and shows only the natural light color of the very superior quality of stone. All the mythological accessories of the relief are puzzling figures.

North Side. Two vertical rows of glyphs are cut into the smooth surface of this side. The seven lowest glyphs of each row are well preserved. How many there were above the line of fracture it is difficult to conjecture.

Stela 2 (Plate 14, combination of West, South and East sides). The greatest length of the piece found was 120 cm.; breadth, 65 cm.; thickness, 38 cm.

South side, together with *east* and *west sides.*

I will preface this description by remarking that the general arrangement of the relief on Stela 2 is similar to that on No. 1, but that many deviations appear in the details. Also the position given to the high priest on Stela 1, though similar to that on No. 2, differs in direction; in other words, while the face of the principal figure on No. 1 turns to the east, that of No. 2 turns to the west.

Keeping this change of direction in mind we may assume that the personage of high rank on Stela 2 — presumably also standing on a great glyph — was represented from the left side from the feet to the girdle, the right foot being a little advanced, while the chest together with the arms bearing the ceremonial bar are presented from in front, but the face is turned to the right. Above the line of fracture the girdle can be seen ornamented with a St. Andrew's cross and knobs with a central depression.

The fine profile head on the observer's left should probably be regarded as the central ornament of the girdle, while the head on the observer's right

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might be the ornament of the left hip, the one on the right not being visible. The head on the observer's left shows plainly the S-shaped tooth, or object externally applied to the corner of the mouth, the nose-bead and perforated ear-disk. This head is overtopped by another with an elongated saw-toothed upper lip under a long projecting nose with round bead ornament inserted in the angle formed by nose and lip.

The head on the right shows what may be called a covered eye. A small S-scroll can be distinguished at the corner of the mouth, also the ear-disk with perforation. Both heads rest upon a similarly ornamented bar with large pendants.

The figure in this relief also has a chain falling far down over the ceremonial bar and presumably curving to the left. A grotesque face under the only visible St. Andrew's cross of the girdle might be regarded as the ornament from which the flap depends. The cuffs at the wrist are very elaborate and the closed hands have the same position as on Stela 1.

Above the ceremonial bar, over the right hand of the priest, can be seen a head in profile, probably meant for the central medallion head of the neck or breast ornament. This head is overtopped by a half head with a proboscis, which supports the chin of the priest, his face being in profile. An animal's head looking in the opposite direction is in its turn overtopped by a half-mask with the proboscis curved downward. The chain seems to fall from the first of these heads. I might add that a strangely conventionalized profile head seems to rest on either shoulder.

The large ear-disk of the principal personage has the same horseshoe shape as that on Stela 1. A small crescent ∩ is applied to the cheek and from the corner of the mouth a S-scroll curves downward and seems to continue at the top obliquely across the nose, which however does not preclude the application of a nose-bead. The head is surmounted by the familiar deity-mask, this time with the proboscis turning upward. Scroll-work is attached to the front of this fantastic head, and a confused elaboration of scrolls develops at the back and above its head-dress of symbolic horizontal and vertical lines; the helmet rises in a lofty construction. On the front of the head-dress is a curve) within which is a head in profile. A plume of feathers falls from the scroll-work at the back.

From each shoulder of the priest the feather mantle rises in the form of a flattened arch and turning to cover the east and west sides of the stela, forms a background for the mythological accessories. Before describing what is held by the open jaws of the ceremonial bar, I would call attention to the unmistakable sign for 9 (a bar with four dots), placed beside the large glyph over the conventionalized face on the right shoulder within the curve of the mantle. It seems to have a counterpart in the sign for 7 (a bar with two dots), placed before it over the head on the left shoulder.

Within the open jaws of the ceremonial bar, which turns to the west

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side-face of the stela, a deity is seen sitting in Turkish fashion upon a stone bench. The left arm with a cuff at the wrist is perfectly distinct, also a half-mask with downward curved proboscis close under the chin, and another turning in the opposite direction under the ear-ornament, which has the same horseshoe shape as that of the principal figure. The eye appears to be closed.

The head-dress shows first a grotesque face with a proboscis curved downward, backed by another smaller one looking in the opposite direction. Surmounting the first face is a second with a smaller one behind looking the same way. Above these a third face is placed, surmounted by a fourth surrounded by scrolls and extending beyond the border of the feather mantle.

Within the jaws on the east side crouches an exceedingly fierce looking god holding an uncertain object obliquely across his breast with his raised right hand, and having a head-dress of such confused design that it defies description. Before the sinister eye of the god, there seems to be a raised nose-ornament and below the eye and the ornament there is a double curve which obscures the mouth. The ear-ornament is not round but composed of points.

Among the scroll-work of the head-dress belonging to this fear-inspiring face, an ear-disk with perforation can be distinguished attached to a grotesque mask. An oval design surmounted by scrolls rises obliquely beyond the edge of the feather mantle forming a finish for the whole.

Below the bearded lower mandible of the open jaws on both the east and west sides are four groups of chronological heads looking upward. These groups are separated vertically by a bone and horizontally by a row of round beads with feather fringe. On the west side only one of the heads is preserved, but on the east side four of these glyphic heads can be plainly distinguished (by turning the picture either way). There were no remnants of color found on this beautifully executed bas-relief.

The North Side. This side shows two vertical rows of large glyphs, but so badly worn away that they could not be photographed.

Along the north side of the principal square extends the first terrace on the south side of the group of temples situated there. The terrace rises barely three metres above the level ground of the square.

Of the four temples with south façades constituting the front row of the group, the one at the west end of the terrace (on the observer's left) had no stela before it, but the second has four stelae at the southern foot of its pyramid. Of these stelae two are plain and two (Nos. 3 and 4) have relief carving. There is a circular altar in front of each of the four stelae, but only the one belonging to No. 4 has relief-work.

Stela 3 (Plate 15, combination of West, South and East). Height of stone from base line of figure to the very top is 153 cm., to which should

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be added about 45 cm. for the part sunk into the cement pavement. Breadth, 58 cm. Thickness, 39 cm.

South Side. The personage on this side, presumably a priest, is represented from the left side and standing with the right foot a little in advance. The feet are protected by plain, but high buskins. The loin-cloth is held about the waist by a broad girdle, with a large profile head attached to the front, resting on a roll with pendants. In order not to conceal the outstretched right hand and wrist, the artist set the head somewhat farther down than it ought to be.

A double string of beads hangs about the neck and breast. The profile face of the priest is badly hacked, which can be laid up against the Yucatec milpero gang, who, making a milpa of the principal square of Tikal, hacked away the faces of all the carved figures, so that their angered spirits should do the fields no harm. A shocking custom quite common among the modern half-breeds of Yucatan! To the lower part of the head-dress, now become indistinct, a small bunch of feathers is attached in front. A design resembling an arm forms the top, and a bunch of feathers falls downward at the back.

A large head is attached to the back of the priest. Though the face in profile is badly hacked, the ear-ornament with accessories can still be distinguished, also the two faces placed one over the other surmounting the priest's head, also a half-mask supported by a roll with pendants under the chin. The whole composition rests on a framework reaching low down and ending in a half-mask with a little scrolled pendant.

While the left arm hangs down at the side, the outstretched right hand holds a triply composite staff of ceremony, which rests below on a large profile head glyph, placed close to the right foot. The three parts of the staff are held together in the middle by a solid ornament and the top is finished off by another.

The Narrow Side-faces on the East and West. The eastern side-face has two vertical rows of nine glyphs each, and the *western* two rows of only eight glyphs each, making 34 glyphs in all. The glyphs are all very well preserved and with a favorable light (not always to be had) they came out finely on the photograph. These glyphs are not as desperately composite as certain others and therefore will probably be more easily deciphered.

The north side is plain.

Stela 4 (Plate 16). This stone was so nearly covered up by débris which had rolled down from the temple-pyramid behind it, that the only visible portion was a plain, pointed top with the beginnings of glyphic scroll-work. Though the stone appeared to be without value, I nevertheless concluded to excavate all around it down to the cement pavement of the terrace. It gradually became apparent that we had before us a stela, let upside down

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into the cement pavement so deep that we had to break the layer of mortar which partially concealed the tiger-head on the south side and the initial glyph on the north. It is the only time in my archaeological experience that I have met with a similar case. Is it possible that this sculptured image had also lost credit with the faithful of Tikal, and instead of being broken in pieces was set up head downward? It is difficult indeed to surmise the reason for this singular act. At any rate, the face having been buried under débris, escaped being hacked by the milpero gang!

The height of the stone from the plain point which ought to be at the bottom, to the edge of the rounded top is 161 cm. Breadth in the middle, 86 cm. Thickness, 37 cm.

South Side (Plate 16, Fig. 2). The height of the relief from its lowest base line (if it were correctly placed) to the top edge of the rounding off is 123 cm. Holding the photograph in the proper position, we distinguish at the bottom large glyph compositions with the sign for 13 (two bars and three dots) placed on the observer's right. It should be noted that the sculptor added two more faintly indicated vertical lines on the edge which curves round to the adjoining narrow side-face of the stela. If those two lines have a numerical value, we should read 23. Above the glyphic base appears the glyphic half-length image of a personage represented in front view. The upper edge of a collar apparently made of feathers can still be distinguished. The smooth round face has a large ear-disk on either side. The tiger-head forming the head-dress is surmounted by scroll-work from which a plume of feathers falls downward on the left (from the observer).

There still remain faint indications of the left arm with the closed hand lying upon the breast. The arm holds what looks like a short quiver with feathers projecting at the top, and near the bottom it has three long points falling over the lower arm and the wristlet which is ornamented with disks.

It is difficult to determine by what the right arm is concealed. Generally speaking, the relief on the south side turns with rounded edges over upon the narrow side-faces. Can the personage here represented be a sacrificial priest, since such priests actually wore the tiger helmet? Or is it a female deity? Who can tell?

North Side (Plate 16, Fig. 1). The carving of glyphs on this side is adapted to the considerable unevenness of the stone. The photograph held in the right position and compared with my sketch,[1] will give a correct idea of the glyphs. At the top is the large initial glyph, below it are two glyphs, and then (counting the horizontal rows) four sets of three glyphs: — Thus $1 + 2 + 3 + 3 + 3 + 3 = 15$ glyphs.

Before this shattered stela stood a circular altar (No. I in my enumeration) 118 centimetres in diameter and of considerable thickness (or height). This stone was not deeply buried and it seemed to me to have on its upper

[1] This drawing of the glyphs is not reproduced. — EDITOR.

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surface remnants of sculpture very much worn away. Badly weathered glyphs on the cylindrical side were more plainly recognizable.

In excavating the stela and also for the purpose of setting up my photographic apparatus, I was forced to set the altar up on one side when, to my surprise, the *under* side disclosed a relief of strong projection, but unfortunately badly disintegrated by the moisture of the earth. It seemed to represent a figure seated in European fashion, holding out a large head with both hands.

Keeping in view the architectural centre of the whole group, the third temple may be regarded as having the most advanced position. On the south side of the pyramidal substructure of this third temple, there is set up a row of five stelae, and a sixth placed centrally before them with a considerable distance between.

Of all these stelae only the first on the right (No. 5 in the general enumeration) has relief-work and a sacrificial altar belonging to it (No. II), while the last stela to the left is plain and likewise has a circular altar (No. III) before it with bas-relief.

Stela 5 (Plate 17, combination of West, South and East sides). This stela is still in an upright position. The height from the base-line of the figure to the top of the stone is 212 cm., to which should be added about 75 cm. for the plain portion, most of which is let into the ground, giving a total of about 287 cm. Breadth near the top, 112 cm. Thickness, 40 cm.

Southern Broad Face (Plate 17, Fig. 2). The sumptuously adorned personage, presumably a priest of high rank, on this stela, is represented strictly from the left side, the right foot not advanced, merely a faint outline of the right leg being discernible behind the left, as was customary in sculpture of that period. The high buskin of the visible left leg is richly ornamented. Over a loin-cloth of thin material coming down in an oblique line below the knee, the priest wears breeches of tiger-skin with tail hanging down behind, and an ornamental flap with a goggle-eyed mask hanging down in front. The very elaborate girdle might be regarded as a third loin covering. It displays St. Andrew's crosses above, between horizontal groups of lines, and on the lower edge a double fringe of feathers and snail shells. In front, the girdle has a large profile head with a criss-cross bar and pendants under the chin and a surrounding drapery of flat bands. The breast-cape consists of a wide bead collar with a deep feather fringe on the edge and a mask with a triple pendant attached in front.

The profile countenance of the priest is completely demolished, but it undoubtedly had an ornamental support below the chin, of which a little half-mask still remains resting upon the left shoulder, and also a small tiger tail falling over the bead collar and curving toward the front. A scrolled nose-ornament can also be distinguished.

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The rest of the relief is all scaled off up to the top. Hence the headdress has vanished, only the ends of the feather plumes still remain at the back.

The left arm hangs straight down and distinctly shows the richly ornamented wristlet. The hand holds the elaborate pouch, which ends in imitation of a rattlesnake's tail. (The pendant hanging parallel with the pouch, I regard as the ornamental flap.)

In his outstretched right hand the priest holds a little idol (now almost demolished) by one of its legs, which, as usual, ends in a serpent writhing forward, and now nearly scaled off. Below the little idol there is a vertical row of three well preserved glyphs, and above it there was once a double row, now wholly scaled off.

The priest has the large head of a deity attached to his back, probably fastened to his girdle. Below the chin is a bar with three visible pendants, and the forehead is surmounted by the familiar half-mask with proboscis. To the back of the double ear-ornaments is attached an oblong panel with graceful outlines, from behind which issue long, beautifully curving feathers. The lower end of the panel finishes in a large rectangular scroll. There are presumably two of these ornaments (the other being invisible) with a face between.

The captive destined to be sacrificed lies flat on his face close behind the priest. The head, trunk and arms are all gone, but the legs and feet together with the rope tied around the knees are well preserved. The legs are bent at the knee and the feet held up in the air, as there was not sufficient room to represent the captive stretched at full length. This relief has considerable projection; the depressions still show vestiges of a coating of fine stucco painted red. No other colors remain.

East and West Narrow Side-faces (Plate 17, Figs. 1, 3). Each side-face has two vertical rows of twelve glyphs each, making a total of 48 glyphs. They are all, excepting the three at the top on the west side, admirably preserved and distinctly show their very composite nature, doubtless furnishing material for prolonged study and comparison.

North Side. This side is plain.

Before the south side of the stela lay a *Circular Altar* 125 cm. in diameter and about 20 cm. in thickness, No. II in my enumeration. This altar had relief-carving on the upper surface, now quite destroyed, and handsome symbolic designs on the front (south) portion of the cylindrical surface, which is well preserved near the lower edge, but scaled off below the upper edge.

In 1895, while inspecting Stela 5, I found a large heap of coals and ashes on the ground before it, the circular altar having been flung to one side. I thought it very strange that roaming hunters should have chosen

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this particular spot for their camp fire. Afterward, in the fine second gallery in the fourth story of the Palace of Five Stories, I found an abandoned paper mould of the relief on the south side of Stela 5. After carefully looking it over, I was forced to admit that it was very well done, and had probably been left because it could not be rolled up, owing to the strong projection of the relief, and there was no other way of transporting it. Finding more such suspicious traces of fire in front of stelae afterward in Seibal, I conferred with my men concerning them and learned that Señor Federico Artes with his mould-maker, Gorgonio Lopez, had previously visited Tikal in order to take paper moulds of the best reliefs. Of course, I am not prepared to say that the scaling off of Stela 5 and its Circular Altar (II) was in consequence of moulding fires, though I must confess I did not think that either of the stones had gained by the process. It seemed a great pity, however, to leave that excellent mould behind.

Circular Altar III, with Relief-work. The stela standing on the left wing of this group is quite plain, as before stated, but its Circular Altar III has relief-work on its face, and on its cylindrical sides.

The face of the stone shows a manikin in a posture expresssing animation, but very much worn away, while the surrounding scroll-work is much better preserved.

The cylindrical sides, divided into oblong spaces, display a tasteful symbolic design, consisting chiefly of two oval figures crossed by a band and separated from each other by a criss-cross design. The small .oblong space on the front (the south) contains an agreeably conventionalized head. The diameter of this circular altar is 1 m., its thickness (height) 48 cm.

The fourth temple coming next in order on the left wing of the series (the one on the east) has three stelae belonging to it; a plain one before the south front (on the observer's left) to which belongs Circular Altar IV with relief, another No. 6 (on the observer's right) with relief but broken in pieces, and a third (in advance of the others on the central line of the temple to which it belongs) No. 7 in my enumeration, with relief and likewise broken in pieces.

Circular Altar IV, with relief. This altar is in front of and close to the plain stela, which still maintains an upright position. The diameter of the altar is 124 cm. The low relief on the face is fairly well preserved near the edge of the circle. The relief seems to represent a figure seated on a scroll and surrounded by scroll-work. As for the half-buried cylindrical surface, this seems to have been decorated with symbolical designs and may have been better preserved than the top.

Stela 6. This once beautiful stela had relief-work on the south side and glyphs on the narrow side-faces, but it is now so completely broken

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up, that it was impossible to do anything with it. One can only faintly recognize that the south side is occupied by a sumptuously clad personage with a helmet and plume of feathers, and that the carving of the glyphs on the side-faces was clear and good.

Stela 7 (Plate 18, Fig. 1, South side). This stela, which as I have said, stood in advance of the others, was also broken in pieces, but I was able to join two of the largest fragments. The breadth of the stone is 57 cm.

The relief may represent an old sorcerer or *Hmen* from the left side. The left leg, no doubt, was slightly advanced. Instead of a regular girdle this personage probably wore only a sash. A double string of beads depends from the neck to which seems attached the obliquely placed head of a small mammal whose right paw is stretched out to grasp the elaborated staff of ceremony. Long pointed feathers fall down over the breast and upper arm. The Hmen wears on his breast a head seen in profile with a pendent fringe of feathers below. The ear-disk can still be distinguished as well as an ornament near the nose. A large head, also in profile, was attached to the back of this personage; it is now wholly demolished, though its pendants still remain, as also the two straps running over the left upper arm, by means of which the head was held in place.

The face is that of an old man with a circle around the eye. The ear-ornament has the familiar horseshoe form, finishing with an extension covering the cheek and two pendants.

The head-dress consists of a combination of broad horizontal bands, the lowest one finishing at the back in a fantastic half human face, below which an outstretched paw appears to be grasping some object. A vertical band, running over the head from ear to ear, seems to hold the head-dress together, while a large conventionalized eye is attached in front.

The left arm hangs down at the side of the body, and has a large flat wristlet. The hand holds the familiar pouch.

The outstretched right hand holds a composite staff of ceremony with an ornament on top. The staff resembles that on Stela 3, only it is not quite so long, or else it is only half portrayed.

In spite of the badly demolished condition of the stone, the photograph turned out quite satisfactorily. The face, at any rate, of the aged sorcerer is not hacked away, since the stone, broken and lying on the ground, did not attract the attention of the iconoclastic milpero-gang.

The narrow *side-faces* of this small and rather thick stela were badly damaged, but each still showed traces of a single vertical row of glyphs.

The north side or back of the stela is plain.

Along the northern edge of the principal square, near the slope (former stairway?) which leads up to the first terrace described above, there is a row of thirteen stelae, seven of which have relief-work (Nos. 8, 9, 10, 11, 12,

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13, 14). All these stelae, with the exception of No. 14, have circular altars placed before them on the south.

A little way in front of this row is another of five plain stelae, each with a circular altar before it on its south side. In front of the west stairway of Great Temple I stood two large plain stelae (now fallen down) each with a circular altar on the west side, and in front of the east stairway of Great Temple II stands a single plain stela with its circular altar on the east, as a matter of course.

Of the seven sculptured stelae on the north edge of the square, there is now (1904) only one, No. 10, standing in an upright position. The three stelae, Nos. 8, 9, 13, which I found still standing when I visited Tikal in 1895, had in the meantime been thrown down by chicleros, who are the perpetrators of so much mischief in the ruins, because, in their stupidity and covetousness, they hoped to find hidden treasure underneath. A certain Emiliano Vasquez of Flores seems to be the chief instigator of this kind of depredation. As it was an extremely difficult matter to set up the fallen stelae for the purpose of photographing them, I sent a protest to the government of the Department of Peten regarding this wanton mischief, at the same time calling attention to the fact, that the chicleros were given concessions for gathering gum but not for despoiling the ruins.

Stela 8 (Plate 19, West, South and East sides). The entire height or length of this stone is 193 cm., 150 cm. of which belong to the figure on the south side, measured from its base line to the very top. Greatest width, 52 cm.; thickness, 43 cm.

South Side (Plate 19, Fig. 2). Before this stela was thrown down by the chicleros, it was let into the pavement up to the ankles of the exalted personage represented on the south side. The photograph plainly shows the top layer of cement still clinging to the ankles.

This personage of high rank is represented from the left side with the right foot placed a little in advance of the other. The sandal on the left foot is still very distinct. The sole can be seen held in place by little straps drawn between the toes, also a heel protector, the strap around the ankle and above it on the outer side of the leg, the familiar half-mask with proboscis. Above the eye of this mask, instead of a forehead, a large oval is applied with the sign for two (8) before it forming a kind of glyph. Of course the corresponding ornament on the outer side of the right leg cannot be seen. As the relief is almost quite demolished above the thigh, the loincloth, girdle, etc. cannot be discussed.

Depending from the neck, however, two bands can still be distinguished, to the lower end of which a mask was no doubt attached. Presumably the face, now wholly hacked away, was supported by an ornament which concealed the neck. There are no vestiges of the head-dress remaining.

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The left arm probably hung down at the side, while the right hand held the triple ceremonial staff, still plainly to be seen. The staff had an ornament below, in the middle and on top very much like the staff on Stela 3. Traces still remain of a large head, with pendants and ornaments surmounting the forehead, attached to the back of this personage of high sacerdotal rank.

Western Side-face (Plate 19, Fig. 1). This side has a vertical row of eight large, well preserved glyphs arranged in groups of two thus, 2 + 2 + 2 + 2.

Eastern Side-face (Plate 19, Fig. 3). This side has a vertical row of fifteen glyphs. Beginning at the top and going downward they are arranged in groups of 3 + 4 + 4 + 4. They are fairly well preserved, with the exception of two in the middle of the stone, where there is a large oblong hole, and one other below, on the observer's left, where there is a smaller hole. These holes were originally filled up with little stones and stucco, and upon this filling the missing parts of the glyphs were modelled. The filling is now all gone.

The north side is plain.

In spite of the badly mutilated condition of the *south* relief of this stela. it will still be of importance to Americanists who are attempting the decipherment of hieroglyphs. This stela, unfortunately, is among those thrown down by chicleros.

Stela 9 (Plate 20, combination of West, South, and East sides). This stela is another of those thrown down by the rapacious chicleros, who, as may be supposed, found nothing underneath. Whole height or length of stone, 211 cm. Breadth, 65 cm. Thickness, 37 cm.

South Side (Plate 20, Fig. 2). The relief measures 141 cm. from the base-line of the figure to the oval border (under an overhanging edge of considerable projection).

Of all the stelae standing in the open and not protected by débris, the relief on this one is best preserved. This is owing to the fact that in addition to the excellent, hard quality of the limestone, the south side was protected by its overhanging top from the direct violence of the rainfall.

The personage, probably of royal rank, represented from the right side, stands with the left foot slightly advanced. The sandal on the right foot is particularly distinct. The little straps which pass between the toes to hold the sole in place can be plainly distinguished, also the smooth leather heel protector and the double strap around the ankle.

The loin-cloth, probably bordered with feathers, seems to be held around the waist by a plain sash. Below it in front appears the broad ornamental flap with the edges turned over at the sides, the centre being covered up by a head in profile suspended forehead down from the plain girdle. Below the

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forehead the head has attached to it a roll with three pendants. (By turning the photograph upside down this ornament becomes intelligible.)

The breast and upper arms are concealed by a breast-cape of feather-work. The necklace is fourfold and has a medallion head, seen only in profile, attached in front, which is finished below by a radiating fringe of feathers. Two straps come down from the neck under the necklace and form a pretty plaited design on the front of the plain girdle, allowing the ends, which appear and hang down at either side, to frame the head on the ornamental flap.

The ear-disk shows four flattened knobs, and from a perforation in the middle issues a little tassel hanging obliquely. The badly disfigured profile face appears to better advantage on the photograph, owing to the deep shadow.

The back part of the head is supported by the upturned claws and head of an eagle, the latter crowned by what resembles three radiating fleur-de-lis. Over the forehead an alligator's head with open jaws stretches forward, and above this appears the "copilli" of the Aztec and Toltec kings, with an ornament on the front. The "copilli" is surmounted by a head in profile (the right ear-disk can be plainly distinguished) and from the top of the head proceeds the plume of feathers falling down behind.

Below the eagle's claws, which support the head, the feather mantle falls from the shoulders, displaying at intervals three eagle-heads (which perhaps can be more readily distinguished if the photograph is held upside down). From each eagle-head proceeds a double scroll, which lies along the edge of the stela. The tail of the serpent at the bottom of the mantle may be regarded as the end of the sash knotted behind.

The outstretched right hand, with two bands around the wrist, holds the staff of ceremony which is surmounted by the *ketsal* (bird). The left hand also rests against the staff.

Can this splendidly arrayed personage with the eagle mantle, the *copilli* crown and *ketsal* be one of the kings of Tikal? Was his name *Ay* (Alligator)?

The East and West Narrow Side-faces (Plate 20, Figs. 1, 2) each have a vertical row of seven large, fairly well preserved glyphs, which will doubtless be of value for purposes of comparison.

The north side is plain.

Stela 10 (Plate 21, West, South and East sides).

After the mischief perpetrated by the gum-gatherers mentioned above, this is the only sculptured stela left standing in an upright position on the principal square.

Measured on the south side the height from the base-line of the figure to the rounded top is 206 cm. to which should be added at least 75 cm. for the portion let into the pavement. Greatest breadth, 95 cm. Thickness, 42 cm.

South Side (Plate 21, Fig. 2). The work on this stela is in high relief

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and perhaps for that very reason it is badly worn away by the action of the elements, in addition to which the face of the captive, as well as that of the principal personage, has been hacked away.

The personage of high rank is represented in front view, with feet apart and the face turned to the right. The footgear is worn away past recognition. The loin-cloth of feathers with a border of shells is held up by a close fitting girdle, which gives the figure the effect of a small waist and broad hips. Below the girdle appears a broad ornamental flap with a head attached at the top, the large pendants of which can still plainly be seen. The breast-cape is formed of scales and the necklace has a small head now grown indistinct. Nothing is left of the face but the two feathers projecting from the nose. The helmet still shows a face on the front, a small plume of feathers standing upright on top of all and a large plume hanging down behind. The right hand holds up an object which can no longer be determined. The left hand hangs down at the side.

Behind the personage of rank lies the captive with arms crossed over his breast and feet in air. The fact that his head looks like that of an animal is merely the accidental result of demolition.

Accessory carvings on the background can no longer be distinguished. The photograph shows very dark shadows, which have their advantages as well as their disadvantages. Even a different light would bring out very little more. In spite of the advanced stage of demolition, traces of stucco and red color still remain.

Eastern Side-face (Plate 21, Fig. 3). The glyphs on the two side-faces are in a far more satisfactory state of preservation, being also carved in quite high relief. This side has a vertical row of thirteen large glyphs, beginning at the top with the familiar initial glyph.

Western Side-face (Plate 21, Fig. 1). This side has a vertical row of thirteen double glyphs, that is, the glyphs seem to be closely combined two by two. The topmost glyph is entirely destroyed owing to the curve of the stela at that point, and also to the scaling off of the stone at the back. Only the lower half of the next glyph still remains.

North Side. This side shows the remains of four vertical rows of glyphs. All the upper glyphs have scaled off or washed off. I cleared away the concealing earth and débris from the lowest glyphs to see whether it would be worth while to photograph the entire north side. However, it proved to be full of large holes which had once been filled with stucco, now all gone, thus leaving incomplete the otherwise well preserved glyphs. I therefore omitted to photograph the north side. It was even difficult to ascertain the number of glyphs. I think each row contained about twelve.

Stela 11 (Plate 22, South side). This stela stood quite near Stela 10, a little to the east, and its history is as follows. Some vandals, unknown

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to me, had taken advantage of the fact that the stone admitted of cleavage near its southern face, and had split off the entire portion holding the relief. This slab I found in 1895 with the relief side exposed to the rains, lying in an inclined position near the main body of the stela, which was still in an upright position. It is difficult to see what could have been the object of such an act. Could it have been for the purpose of making a mould? In 1904, therefore, I found myself under the necessity of placing the slab with the relief on one of its sides. My Tenosiqueros were quite clever at this kind of work. With the aid of the steel winch I had brought with me, this feat was accomplished, — a very difficult one, for the comparatively thin slab, which was rounded at the edges, had to be supported behind and before to hold it in position.

The height of the stela from the base line of the figure to the curved top is 233 cm., to which should be added about 75 cm. for the part let into the ground. Breadth, 126 cm. Thickness, adding the split-off piece to the whole, fully 60 cm.

The *two side-faces* and the *north side* are plain.

South Side (Plate 22). In spite of advanced disintegration the photograph taken after long exposure shows a most sumptuously arrayed personage of high rank represented in front view with the face turned to the right and the feet far apart.

The familiar tuft on the instep adorns the foot-gear. The loin-cloth, evidently running to a point in front, is held to the waist by a girdle adorned with St. Andrew's crosses and probably with three concealed medallion heads with pendants. The broad ornamental flap hangs down in front with angular scrolls on either side of the bottom and a bunch of three long curved feathers depending from the middle.

The breast-cape is made of beads and has attached to it a mask with a fringe of radiating feathers. Above the weather-worn face rises the head-dress, a confused and indistinct mass of masks and scrolls. On top of all, a serpent rears its head thrust toward the front, and a large plume of feathers falls behind.

The outstretched right hand holds a small object, possibly the heart of a sacrificed victim. The left arm holds obliquely the staff of ceremony, which is made of trellis-work held together at five different points.

The sculptor presented to view the large head of a deity, usually worn behind, by allowing it to appear on the left side. It is a grotesque face with goggle eyes and an elaborate setting. The usual pendants can be distinguished and also the elaborately carved support with scrolls supposed to be turned to the right and to the left. From the top of the dorsal head there seems to rise (above the staff of ceremony) some kind of head-dress with a bunch of feathers.

On the ground behind this exalted personage, a captive lies on his face

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in a position similar to those of Stelae 5 and 10. Though the head is badly worn away it still shows traces of some kind of head-dress, indicating a captive of high rank.

There are two incised miniature glyphs on the smooth background near the head. Of these I made a tracing, since I could not expect the camera to bring them out.[1]

Above the head of the captive rise four graduated rows of small glyphs, which have become indistinct. Above the right hand of the principal figure are two more vertical rows of glyphs also much worn away, surmounted by a fantastic figure facing the elaboration of the helmet.

Beginning at the base-line of the figure, the rounded edge of the relief is ornamented with vertical and transverse lines, and, forming a round arch at the top, frames in the whole relief.

In front of Stela 11, on the general level of the cement pavement, stands a circular altar 170 cm. in diameter. It is sharply and smoothly dressed and is the largest in Tikal, which proves that its stela must have been of a certain importance in sacrificial ceremonies. Several of my archaeological friends had expressed the wish to have the question settled beyond a doubt as to whether persons of rank had been buried in the ground in front of the stelae, or perhaps directly under the circular stones. In that case small objects of daily use would have been buried with them or, in case of cremation, stone receptacles containing the ashes and ornaments of fire-proof stone and metal would have come to light. After clearing away the centuries old accumulation of forest mould, we broke up the cement pavement close to this circular altar and set about making a regular excavation. We dug away the earth under the altar which remained undisturbed and served as a roof. At a depth of about $\frac{3}{4}$ m. we struck the original natural *sáhcab* earth, which forms the subsoil of the greater part of the peninsula of Yucatan, and extends as far as Tikal. *Sác-cab* means "white earth." In this case *sác* changes to *sáh*, actually to *sákh*, *sáx*. The phonetic spelling of Maya words, by the way, as introduced by the Franciscans, is in some cases inadequate. This sá*h*cab is white, hard, calcareous sand and plays a very important part through all Yucatan as a top layer in road building, and as an ingredient of mortar for all kinds of building. In Tikal itself, unless good hard limestone was required for facing, the easily worked sá*h*cab stone of this region was almost exclusively used for building material. The excavation was continued quite without result to the depth of a metre in the layer of sá*h*cab, and extended almost to the size of the circular altar, which formed a solid covering to the resulting cavity. We even continued to dig as far as and beneath the next circular altar, but all in vain! The sá*h*cab layer, although it would have made a tidy white grave, had never been touched by human hand!

[1] This drawing not received. — EDITOR.

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From an archaeological point of view the result of our rather extensive excavation was entirely negative, but in a geological sense it was not without interest. It is probable that persons of rank were only in rare instances buried in the heart of these temple-pyramids, but most likely as a general thing near their offsets or lower terraces, and mortuary stelae with their circular altars were set up at certain distances from the graves in honor of the dead and also of favorite deities.

Stela 12 (Plates 23, 24).

Starting at Stela 11, and walking in an easterly direction past five plain stelae and their circular altars, we came to an almost wholly buried stela. Only the top with the much worn away bunch of feathers of the relief appeared above ground, and gave evidence of the whole being much broken up and generally unpromising. Nevertheless, I decided to excavate it, in order to clear up all doubts. The result of the rather difficult piece of work was a stela not very high but comparatively broad and quite thick, with carving in half (not low) relief on the south side, and interesting glyphs in low relief on the other three sides. The entire height or length of the stone is 150 cm. plus the broken off lower portion measuring about ½ m. Breadth (if restored), 91 cm. Thickness, 50 cm.

South Side (Plate 24, Fig. 1). The carving in half relief is badly weather-worn, the stone shows small imperfections and has also scaled off on the eastern side-face (on the observer's right), probably the result of milpa fires.

A personage of rank, in front view and turning his face to the left, is represented as far as the knees only. The waist is tightly girded in. The broad hip-covering consists of tiers of feathers and has an animal's head close to the girdle, probably that of a lion (*coh*) with feather pendants. The breast-cape, which also covers the shoulders, consists of rows of short feathers. From the necklace depends a peculiar mask with short pendants. Two long pendants hang down probably from the shoulders and border the lion head on either side. The half destroyed face shows a crescent-shaped ear-ornament on one side and the usual two feathers projecting from the nose. The head-dress, destroyed in front, still shows a large plume of feathers on top, and another falling down at the back. The right arm is scaled off below and the left wholly demolished.

Western Side-face (Plate 23, Fig. 1). This side has a vertical row of six large, finely executed glyphs in a fair state of preservation, which I photographed in a most favorable light.

Eastern Side-face (Plate 24, Fig. 2). Of this side, which was wholly split off, I was able to photograph a fragment with four glyphs, two being lost.

North Side (Plate 23, Fig. 2). This side formerly had three vertical

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rows of glyphs, of six each. The stone is cleft lengthwise through the middle row. The fragments, as I have placed them, show fourteen of the original eighteen glyphs with more or less distinctness.

In spite of the ruinous condition of this stone, which is owing far more to fire than to the action of the elements, there are still a number of interesting fragments remaining. Indeed, some of the glyphs are of an excellence of workmanship very rarely found. It is my endeavor to photograph fragments of this kind, inevitably doomed to destruction, before they are entirely demolished. Let me remark, by the way, that the preparations for photographing such broken and buried fragments generally consume an entire week.

Stela 13 (Plate 25).

This stela, which was still in an upright position in 1895, is now also among those thrown down by the gum-gatherers. Accordingly I found the stone lying on the ground in 1904 and was forced to put it in position to be photographed. The total height (or length) of the stone is 190 cm. Height of the figure on the south side from its base-line to the very top, 150 cm. Breadth, 58 cm. Thickness, 37 cm.

South Side (Plate 25, Fig. 2). The personage carved on this side is represented from the right side with the left foot a little advanced. The sandal with toe straps, the heel protector, the fastening at the ankle, and also the ornament on the outside of the leg, are fairly well preserved on the right leg. This figure, which is presumably that of a priest, is clad in a kind of tunic, with lateral slits through which the arms are passed. A necklace with a weathered medallion head can be distinguished attached in front. From the shoulders depends a string of large beads, twisted in the middle and ending in a criss-cross design below, very much like that above the pendants of the *Tecutli* with the eagle mantle on Stela 9.

The round ear-ornament of the right ear, with a band proceeding obliquely from the central perforation is still preserved, while the face has been hacked away by the Yucatec milpero-gang. The head-dress still shows a half-mask in front but the bands and scrolls above it have become indistinct.

In his outstretched left hand the priest holds a staff of ceremony or a lance and in the down-hanging right hand (the wristlet being half-concealed) he holds a plain pouch. To his back is attached the head of a deity seen in profile, with the face hacked away, but the roll with large plain pendants under the chin is still in fair condition.

East and West Side-faces (Plate 25, Figs. 1, 3). The west side-face shows vertical rows of glyphs arranged in groups of $2+2+3=7$. The east side-face has $2+2+4=8$ glyphs, some of which should no doubt be regarded as double glyphs. These glyphs are in very low relief, but

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notwithstanding this fact, they are sufficiently well preserved to come out well in the photograph.

The north side is plain.

Stela 14. At the east end of this row of glyphs, perhaps a little in front of the line and still fast in the ground, was found the bottom portion of a glyph-stela with four vertical rows of glyphs on the south side. Notwithstanding careful search the missing main portion could not be found. Whether it is deeply buried under débris, or was wholly calcined during a milpa fire, or whether it has been taken away, could not be told.

Stela 15. By proceeding on a causeway built along the west side of the large (but low) terrace belonging to the group of temples on the north side of the principal Square, the Palace of two galleries is reached. This consists of a long, finely vaulted apartment in front with another chamber in the rear.

The esplanade on the south side of this Palace is a broad terrace, upon which half a dozen stelae with their circular altars are lying about, mostly broken in pieces or badly cracked. It seems as if the milperos had extended their milpa even over this terrace.

Only one of this confused mass of stelae showed traces of relief-carving, but its fragments were scattered beyond the possibility of collection. All I could do was to give this stela the number 15, in order that my enumeration should be complete.

On the space between the great, two-storied Sacerdotal Palace, facing *west*, now wholly ruined, and Great Temple IV facing *east*, that is before reaching the great *lower* terrace of the latter temple, there are two small temples, each with a pyramidal substructure and the façade of each facing Great Temple IV. These two little temples do not stand side by side but one behind the other. Upon the west esplanade (approached from the east) of the first of these temples, are five large, thick stelae, standing in a row and a sixth somewhat smaller in front of the line. Each stela has a circular altar, but all are without carving. Proceeding a few steps to the north from the space between the two little temples, upon which stand the six plain stelae, a small court is reached enclosed on all four sides by the low ruins of a small structure with an entrance on the south.

In the centre of this court I found, still in an upright position, the stela with a splendid relief, which is No. 16 in my enumeration. But no vestige of a circular altar belonging to it could be found. In vain we cleared away all the vegetation, but where the altar should have been rose a fan-palm over a century old shading the stela with its beautiful crown of foliage.

During the very last days of my stay at Tikal, while inserting the smaller structures in my general plan of the city, I discovered this Stela 16. Time

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was pressing! I had already sent special messengers to San José for carriers. Thinking over this last discovery in the stillness of the night, I concluded to make an extensive excavation with my Tenesiqueros without a moment's loss of time, in order to solve the enigma which enshrouded this solitary priest-king.

Consequently, on the following day, the beautiful fan-palm was felled, which was no very easy task, since its fibrous wood is exceedingly hard and tough. This done, all the roots and earth were cleared away in a circumference of more than three metres. After digging down to the depth of one metre our hard-wood crowbars struck a large stone. Now proceeding with great care and brushing away the black earth with clipped bunches of palm leaves, there lay before us the greatest discovery ever made in Tikal, the great Sacrificial Stone (No. V in my enumeration) with the two principal Maya deities carved on the upper face!

Stela 16 (Plate 26, South side). Let it be understood that the north side and the side-faces are plain.

South Side. Height of the relief from the base-line of the priest-king to the upper edge of the border is 241½ cm., of which 16½ belong to the border. A general estimate of the total height or length of the stone would include about 80 cm. buried in the earth, amounting in all to 321 cm. Breadth of stone, 128 cm.; but the breadth of the niche in which the figure stands (exclusive of the border on the right and left) is only 95 cm., while the height of the niche is 225 cm. Thickness of stone, 32 cm.

The priest-sovereign or Ahaucan is represented in front view with his face turned to the right and his feet apart.

The buskins are overloaded with ornamentation showing among other things a *kin* sign (✕) on the heel protector, and at the ankle a conventionalized face with great goggle eyes (only one being visible) and a large proboscis. But in the form of a puzzle, such as the ancient sculptors were fond of employing, there can be discovered the miniature half-mask of a similar face beside the great eye and above the nose. Above these faces rises an elaborate mass of ornamentation.

Below the knee the garters can be seen, consisting of a double row of beads with a medallion head in front in a frame of beads and having short pendants below.

The loin-cloth edged with fringe and beads is probably of tiger-skin, but instead of the spots of the panther ("tiger" as we say in this country) the garment is covered with delicately incised crossbones. On the right and left side the loin-cloth has a large oval with a double border, half of each oval only being visible.

The girdle, the upper half of which is concealed, has a fine medallion face in front. From under each ear-ornament depends a broad band giving

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an effect of elongation, and from a knotted band under the chin hangs a long oval pendant. There are medallion heads with pendants at each hip also, the heads, of course, seen only in profile. The spaces between the heads on the girdle are filled in with circular designs.

Underneath the central mask is a band of three horizontal strips, from which falls the wide ornamental flap with an ornament of angular scroll-work in the centre, from the bottom of which depends a long tassel. This flap may also be regarded as made of panther skin, with minute incised glyphs in place of spots.

Possibly the priest wears an upper garment of thin material, but that cannot be determined. The breast-cape of beads, however, with a fringed edge can plainly be seen. This beaded breast-cape is for the most part concealed by a wide breastplate with a narrow one below it.

The wide upper breastplate shows a medallion in the middle, surrounded by two rows of bead sand having the central portion filled in by what appears to be an incised glyph.

The medallion is flanked on either side by an oblong oval figure with a raised border containing four beads. From each of these radiate three similar figures, also set with beads, and each ray is tipped by a bead at its rounded end.

The lower narrow breastplate finishes at each end in three flat, radiating strips.

A very long feather or rod is drawn horizontally through the nose, close to which another short feather seems to curve upward.

The ear-ornament is oval with a knob in the centre and having two small rings of beads on the lower edge as pendants, and a short band proceeding obliquely from it on the side and extending across the cheek toward the chin.

The lower part of the towering helmet consists of the grotesquely conventionalized face of some deity with goggle eyes and an aquiline nose (seen, of course, in profile). Small knobs can be distinguished on the nose and on the forehead and small indentations even on the eyeball.

On the part of the helmet crowning the forehead of the grotesque face there is a large ring with a short band issuing obliquely from the centre, giving the impression that the ear-ornament had been removed to this position, an artistic license permitted to Maya sculptors. This part surmounting the forehead shows a small grotesque face in front, a repetition, no doubt, of the large one below, and confronting it is a small *ketsal*.

Above the transposed ear-disk lies a double scroll upon which rests a now mutilated face in an oval frame, from the top of which proceeds a great plume of feathers curving forward and backward, while behind the oval and along the whole back of the helmet, is a handsome crest of feathers with a border of beads and short feathers. Beyond this crest projects the end of an ornamental bar, probably the continuation of the top of the helmet proper. From the end of this bar proceeds another drooping bunch of feathers.

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The high priest holds horizontally with both hands just above his girdle, a tastefully composite staff of ceremony. In the middle of it, lying horizontally, is the familiar grotesque face of a deity with goggle eyes and proboscis, in this instance curving upward. By turning the picture so that the left edge lies horizontally, it is possible to distinguish the grotesque face of a deity in miniature directly adjacent to the great eye, another case of employing the puzzle in sculpture. The staff of ceremony is composed of three strips ornamented with beads. The two outer strips together form a diamond on either side of the horizontal head, and curve outward at either end with a large bead in the curve. All three strips are tipped with beads at the end. From the right wrist depends the familiar pouch with a Tlaloc face on the front. A mantle of radiating feathers appears at the back of the high priest.

Upon the plain background to the right and left of the lower part of the legs, and above the feather mantle on the right shoulder, are three bordered panels containing each a vertical row of four glyphs, making twelve glyphs in all. They are carefully executed in detail and fairly well preserved.

Considering the fact that this magnificent low relief has been standing here forsaken for three and a half centuries, it is certainly very well preserved, which is partly due, no doubt, to the protection vouchsafed it by the fan-palm from direct contact with the heavy rains.

Let me say in addition, that the relief on Stela 16 has many points of agreement with that on No. 11. Personages of the same rank are evidently portrayed on both stelæ. Even the circular altar of Stela 11, though plain, has very nearly the same proportions as the very superior one belonging to No. 16.

Circular Altar V belonging to Stela 16 (Plate 28). *Upper surface.*

This circular altar, which we found in the bowels of the earth after an excavation which was attended with great difficulties, could not possibly be photographed as it lay. The excavation therefore had to be widened all around the stone, so that my Tenosiqueros could raise it on end with the steel winch. When this difficult feat had been successfully accomplished the face of the altar turned toward the east. It was carefully cleaned, and near noon the sunlight fell advantageously upon it. I had waited for this moment to take the negative.

The photographic apparatus was in position, everything was in readiness and the stone given a final wetting, when a light drift of clouds obscured the sun! Then the god of winds suddenly wafted the clouds away and the sun burst forth. A critical glance at the stone convinced me that the right moment had come, and the negative was taken. It was perfectly successful.

A few minutes earlier or later and a very different and quite useless picture would have been the result, and if in spite of all precaution I had not wet the relief, the negative would not have come out clear. Certain rules

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must perforce be followed when taking photographs of this nature, or the result will inevitably be a failure.

The diameter of the stone is 168 cm. Diameter of the central circular relief, 113 cm. Breadth of the encircling band of glyphs, 12 cm. Height (or thickness) of the stone, 36 cm. The cylindrical surface is plain.

The lower portion of the central field of the stone should be regarded as a section of a sacrificial altar (either round or square), and behind it stand the two principal Maya deities, who can therefore be seen only from the knees upward.

This section of an altar shows a horizontal row of four delicately carved, chronological glyphs, preceded and followed by an incised *cauāc* sign (16th day of the Maya month). It is a sickle-shaped figure with drops beneath it, the initial *cauāc* having nine drops, and the end one only seven. (These drops, by the way, are regarded by some Americanists as "honey drops," in which case the word should be correctly pronounced *cáb-uāc*. Many of these old names were not correctly reproduced by the Spanish phonetic spelling and generally require some revision.)

The figure on the observer's right is represented in front view, but the face is turned to the right. The loin-cloth with a border is half concealed by the flap which hangs down from under the girdle. The breast-cape with its long fringe of strips seems to be made of prepared skin rather than of feathers. From the neck hangs a simple breast-plate by two little straps. The wristlets also seem to be of leather. The eye is partially framed by a scroll. The oval ear-ornament has crenulated edges and a long band hanging down from the centre.

Quite singular, with a purpose not clear to me, is an intricate knot attached to the mouth and nose, with three long streamers, presumably of tiger-skin, depending from it.

The large hat, tilted back a little (whether looked at from above or below), should be regarded as of circular form, but represented in profile, it naturally presents the appearance of a flat cone. The surface of the cone is apparently divided into four spaces by four bands, each space being occupied by crossbones. Of course only two spaces with crossbones are apparent, the other two being invisible.

The top of this flat cone-shaped hat is wound about by bands forming a cylinder out of which proceeds a bunch of leather strips, part of which bend toward the front and others fall behind. The strips are probably of tiger-skin, though some may call them feathers. However, little circles can be distinguished, delicately incised upon the strips.

In his right hand, placed against his breast, the god holds his staff, and in his left hand, hanging down at his side, he holds the pointed sacrificial knife of flint with strips of leather falling from the handle.

On the observer's left stands the companion-god, also represented in front

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